159364

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RECEIVED
JUL 1997
SUPERFUND PROGRAM
MANAGEMENT BRANCH

July 1, 1997

Via Certified Mail -- Return Receipt Requested and Federal Express

Mr. Carlton D. Cuffman
U.S. Environmental Protection Agency
77 W. Jackson Boulevard - SM-5J
Chicago, IL 60604-3590

RE: 104(e) Information Request
Sauget Areas I and II Superfund Sites -
Sauget/Cahokia, Illinois

Dear Mr. Carlton:

This firm represents Sterling Steel Foundry, Inc. ("Sterling Steel") and responds on its behalf to the Information Request covering the Sauget Areas I and II Superfund Sites ("Sites"). The United States Environmental Protection Agency ("EPA") issued this request on May 20, 1997 under Section 104(e) of the Comprehensive Environmental Response, Compensation and Liability Act ("CERCLA"). Sterling Steel received the request on or about May 22, 1997. I requested an extension of time to prepare the response from you on June 20 and received an extension to July 2, 1997 to reply.

The Information Request states that pursuant to Section 104(e)(2) of CERCLA, as amended, the EPA may gather information relevant to site(s) and to enforce compliance with the statute, seeking penalties for failure to comply. Sterling Steel's response is in accordance with this statement in the Information Request, but Sterling Steel objects to some of the questions as being overly broad and beyond the scope of the statutory section cited.

The following provides a brief overview of Sterling Steel's operation of the facility located at 2300 Falling Springs Road in Sauget, Illinois ("Facility"):

> On or about August 30, 1982, Sterling Steel acquired certain assets of the former Sterling Steel Casting Co. (an entity that is completely separate from and unrelated to St. Louis Steel Casting or Sterling Steel) as an assignee under a purchase agreement between its parent company, St. Louis Steel Casting, Inc., and Sterling Steel Casting Co. Sterling Steel Casting Co. shut down its business at this Facility prior to Sterling Steel's purchase. Production at the shuttered Facility was not commenced by Sterling Steel until February 1983. Therefore, Sterling Steel operated the Facility less than 2 years at the tail end of the period for which EPA is requesting information.

Based on the information contained in the Site History provided by EPA with the Information Request, only one of the sites of the two Areas was active during the time Sterling Steel was in operation. This site, Site P, is an inactive landfill which was operated by Sauget and Company between 1972 and 1984. All of the other sites were inactive prior to 1980, well before Sterling Steel began operation at the Facility. Sterling Steel did not utilize Site P for offsite disposal of waste.

I am providing this response on behalf of Sterling Steel without personal knowledge of the facts or events described in the documents reviewed or related to me in my interview of Mr. Roy Lussow as to his knowledge of the matters contained in the Information Request. Based upon my inquiry, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. Attached at Tab E is an affidavit of Mr. Lussow stating that a diligent interview and record search has been completed in preparation of this response.

INFORMATION REQUEST ANSWERS

1. Answer:

> Mr. Roy Lussow, Vice President and General Manager
> Sterling Steel Foundry, Inc.
> 2300 Falling Springs Road
> Sauget, IL 62206
> (618) 337-6123

2. Answer:

Letter dated November 28, 1989 from Illinois Environmental Protection Agency concluding Sterling Steel is not a PRP with respect to Sauget Area II sites (Tab A); Phase I Investigation Report dated February 1996 for Industrial Gas Products (Tab B); Letter Dated February 24, 1992 from Illinois Environmental Protection Agency advising of CERCLA Screening Site Inspection (Tab C); Corporate documents of Sterling Steel Casting Co. issued by the State of Illinois, Purchase Agreement between St. Louis Steel Casting and Sterling Steel Foundry Co., Agreement and Assignment between St. Louis Steel Casting and Sterling Steel, Conveyance, Mortgage and Promissory Note by Sterling Steel to Sterling Steel Casting, Warranty Deed to Sterling Steel, Assignment of Note to William and Mary Shive from Sterling Steel Casting and Release of Mortgage (Tab D).

3. Answer:

Mr. William J. Shive, majority shareholder and principal of the former Sterling Steel Casting Co.

Last known address: P.O. Box 1264
Effingham, IL 62401

4. Answer:

The Sterling Steel Facility at 2300 Falling Springs Road does not have an EPA Identification Number as it generates no hazardous wastes as a result of its operations.

5. Answer:

Roy Lussow, Vice President and General Manager
Sterling Steel Foundry, Inc.
2300 Falling Springs Road
Sauget, IL 62206
(618) 337-6123

6. Answer:

No known releases of hazardous materials have occurred from Sterling Steel's Facility.

7. Answer:

No person has arranged for the disposal, treatment, discharge or release of hazardous materials from Sterling Steel's Facility at or to any of the Sauget Area sites during Sterling Steel's operation of the Facility during the period set forth in the Information Request.

8. Answer:

Sterling Steel produces custom carbon steel and manganese steel (Hadfield) castings. Byproducts include spent foundry sand, popcorn slag (aluminum oxide) and very minor amounts of quench water scale. All of these byproducts have been tested and found to be nonhazardous.

9. Answer:

Two types of casting processes are conducted at this Facility — "green" sand castings and "no bake" sand castings. Both processes use casting sand and a binder to make "one-time" sand molds to produce the steel castings. "Green" sand consists of casting sand and a bentonite clay binder. At the proper moisture content, the clay binds the sand to form the mold. Once molten steel is poured into the mold, the moisture is driven off and the sand falls away from the casting. The "no bake" sand consists of casting sand and a two part, chemical binder (Alphacure and Alphaset) that binds the sand to form the mold. The molten steel causes the binding to deteriorate and the sand falls away from the casting. The steel cast is removed for finishing and the sand is returned to a pulverizer, combined with new sand and reused. The melting process by which the steel becomes molten occurs in electrical induction furnaces. Small amounts of aluminum are added to the melting pot which forms oxides with other impurities that float to the top and are skimmed off as "popcorn" slag. Some castings are cooled at room temperature, and others are heat-treated by placing the casting into a quench tank filled with water. Approximately 10-12% of the casting sand is wasted each day as special (nonhazardous) waste. The casting is then finished through sandblasting or shotblasting.

10. Answer:

None of the listed chemicals were used, purchased, produced or stored at the Facility during its operation by Sterling Steel beginning in February 1983 through 1985.

11. Answer:

None of the listed chemicals was used, purchased, produced or stored at the Facility during its operation by Sterling Steel beginning in February 1983 through 1985.

12. Answer:

None of the pictured catalytic agents were used at the Facility during the period of Sterling Steel's operation of the Facility beginning February 1983 through 1985.

13. Answer:

Waste casting sand, minor amounts of quench tank scale, baghouse dust, and popcorn slag (aluminum oxide) were accumulated on site between February 1983 and the end of 1985. Off-spec castings were re-melted and not disposed of off-site. General debris (pallets, office trash, etc.) were disposed of by a local trash hauler.

14. Answer:

Facility operations did not change between February 1983 and the end of 1985.

15. Answer:

The Facility did not have a laboratory and did not dispose of any contaminated soil or contaminated clothing or protective gear, other than possibly disposable paper respirators (i.e., dust masks), during the period between February 1983 and the end of 1985. If such disposable respirators were used, they would have been disposed of with the general plant debris.

16. Answer:

Sterling Steel had no record or recollection of utilizing any of the companies listed.

17. Answer:

Illinois EPA determined Sterling Steel had no responsibility for the clean-up of the Sauget Treatment Plant lagoons and ponds on the basis that Sterling Steel was not in operation until after the time the Sauget Treatment Plant ceased operation. See enclosed letter from Illinois EPA dated November 28, 1989, at Tab A.

18. Answer:

Sterling Steel did not spill or discharge process wastewater, sanitary wastewater or liquid chemical wastes or petroleum products into Dead Creek.

19. Answer:

Sterling Steel did not operate this Facility prior to its hook up to the Village of Sauget's process water sewer interceptor system, if any such hook up occurred. The Facility was hooked up to the American Bottoms treatment plant during Sterling Steel's operation of the Facility and only sanitary wastewater was discharged from the Facility.

20. Answer:

All sanitary wastewater from this Facility is discharged into the American Bottoms Regional Wastewater Treatment Facility. No industrial process waters are discharged as such waters are recycled and ultimately consumed in the casting process.

21. Answer:

Sterling Steel has no copies of any permits issued by local government authorities to Sterling Steel between February 1983 and 1985.

22. Answer:

The facility has no PCB items and maintains no such documents.

23. Answer:

Sterling Steel has not performed any testing of groundwater to determine groundwater flow or quality on or around the Facility or on or around any of the referenced Sauget Area sites. However, a potential purchaser of a lessee of some of Sterling Steel's property, Industrial Gas Products located at 2350 Falling Springs Road in Sauget, Illinois, has performed some groundwater investigation on its property. Enclosed at Tab B is a copy of the report prepared by RUST Environment & Infrastructure provided to Sterling Steel.

24. Answer:

Sterling Steel has not taken any measures which characterize, measure, sample or in any way test for the presence of hazardous materials at or around any of the referenced Sauget Area sites. Illinois EPA did conduct a CERCLA Screening Site Inspection of the Facility in March 1993. Sterling never received a copy of that investigation and the Facility is not a part of any of the referenced Sauget Area Sites (see Tab C).

25. Answer:

Sterling Steel acquired the property in August 1983 as an assignee of the purchaser (St. Louis Steel Casting Co., the parent of Sterling Steel) of certain assets of Sterling Steel Casting Company (See Tab D). Sterling Steel Casting Company under various corporate names - Sterling Electric Steel Casting Co., (July 10, 1922), Sterling Steel Co. (April 14, 1923), and Sterling Steel Casting Co. (August 18, 1928) -- operated the facility since 1922 (See Tab D). Previous ownership/operation is unknown. Sterling Steel's tenant, Industrial Gas Products, commenced its lease of a portion of Sterling Steel's acquired property on July 1, 1987.

26. Answer:

Sterling Steel has no such results or reports responsive to any questions herein.

27. Answer:

See Tab D for Purchase Agreement between St. Louis Steel Casting and Sterling Steel Foundry Co., Agreement and Assignment between St. Louis Steel Casting and Sterling Steel, Conveyance, Mortgage and Promissory Note by Sterling Steel to Sterling Steel Casting, Warranty Deed to Sterling Steel, Assignment of Note to William and Mary Shive from Sterling Steel Casting and Release of Mortgage.

If you have any further questions, please contact me.

Very truly yours,

Cathy

Cathleen S. Bumb

Enclosures

cc w/encl.: Mr. Roy Lussow

FedEx *USA Airbill*

Tracking Number 946217921 5

Recipient's Copy

om
7-1-97

[redacted]

Sender's Name Cathleen S. Bumb Phone (314) 421-3850

Dept./Floor/Suite/Room

Company REP. MARTIN JENSEN MARCHEL

Address 720 OLIVE 24TH FL

City ST LOUIS State MO Zip 6 3 1 0 1

2 Your Internal Billing Reference Information 1358-1335

3 To

Recipient's Name Carlton D. Cuffman Phone ( )

Dept./Floor/Suite/Room

Company U.S. Environmental Protection Agency SM-5J

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(To "HOLD" at FedEx location, print FedEx address here)

City Chicago State IL Zip 60604

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For Saturday Delivery check here

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5 Packaging

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Declared value limit $500

6 Special Handling

Does this shipment contain dangerous goods?

☐ Yes (As per attached Shipper's Declaration) ☐ Yes (Shipper's Declaration not required)

☐ Dry Ice Dry Ice, 9, UN 1845 ___ x ___ kg 904

(Dangerous Goods Shipper's Declaration not required)

CA ☐ Cargo Aircraft Only

7 Payment

Bill to: ☒ Sender (Account no. in section 1 will be billed) ☐ Recipient ☐ Third Party ☐ Credit Card ☐ Cash/Check

(Enter FedEx account no. or Credit Card no. below)

☐ Obtain Recipient FedEx Account No.

[redacted]

Total Packages	Total Weight	Total Declared Value*	Total Charges
		$ .00	$

*When declaring a value higher than $100 per package, you pay an additional charge. See SERVICE CONDITIONS, DECLARED VALUE AND LIMIT OF LIABILITY section for further information.

Credit Card Auth.

8 Release Signature

Your signature authorizes Federal Express to deliver this shipment without obtaining a signature and agrees to indemnify and hold harmless Federal Express from any resulting claims.

232

FORM ID NO. 0200

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Question 17

Illinois Environmental Protection Agency · P.O. Box 19276, Springfield, IL 62794-9276

(217)782-5544

November 28, 1989

Alphonse McMahon, Esq.
Peper, Martin, Jensen, Maichel & Hetlage
24th Floor
720 Olive Street
St. Louis, Missouri 63101-2396

Re: LPC 1630200005 -- St. Clair County
Sauget Sites - Area II

Dear Mr. McMahon:

The Agency and the Attorney General's office have reviewed the transactional information you provided concerning acquisition of the assets of Sterling Steel Casting Company by your client, Sterling Steel Foundry, Inc. Based upon that information and a consideration of Illinois law concerning corporate successor liability, we have concluded that Sterling Steel Foundry, Inc. should not be regarded as a responsible party for the release or threatened release of hazardous substances at the above-referenced site.

Our basis for considering Sterling Steel Foundry, Inc. as a potentially responsible party for Area II of the Sauget Sites related to discharge to the lagoon system of the old Sauget wastewater treatment plant. However, you noted such discharge would have occurred prior to your client's asset purchase of the foundry in 1982.

Thank you for your cooperation and assistance in this matter.

Sincerely,

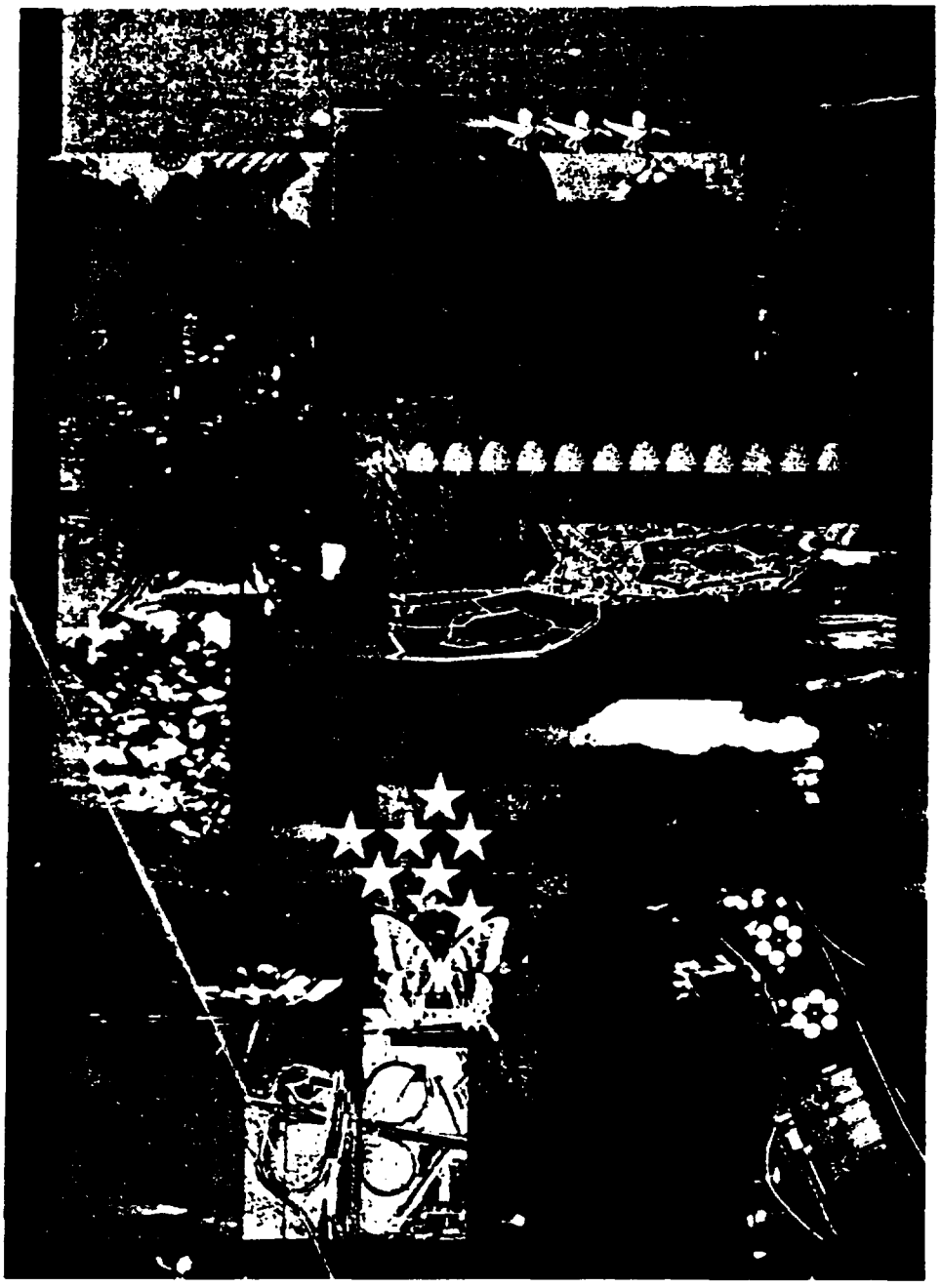
Bruce L. Carlson
Attorney
Enforcement Programs

BLC:mm/45-3

cc: Paul Takacs
Terry Ayers
Thomas Miller
James Morgan, AGO
Christine Zeman, AGO

Question 23

Quality • Integrity • Creativity • Responsiveness



Phase II Investigation

Industrial Gas Products 2350 Falling Springs Road Sauget, Illinois

Prepared for:

MG Industries
3 Great Valley Parkway
Malvern, PA 19355-1424

Prepared by:

RUST Environment & Infrastructure
555 N. New Ballas Road
St. Louis, Missouri 63141

February, 1996

Quality through teamwork

DRAFT

TABLE OF CONTENTS

MG INDUSTRIES FACILITY
INDUSTRIAL GAS PRODUCTS
2350 FALLING SPRINGS ROAD
SAUGET, ILLINOIS

PHASE II INVESTIGATION FOR INDUSTRIAL GAS PRODUCTS

1.0 INTRODUCTION

This presents the results of the Phase II investigation project for MG Industries of the Industrial Gas Products (IGP) facility located at 2350 Falling Springs Road in Sauget, Illinois. Rust Environment & Infrastructure of St. Louis, MO (Rust) was authorized by MG Industries, as presented in a Professional Services Agreement and based on the proposal dated November 28, 1995, to obtain groundwater samples, perform water/soil field screening, and analyze groundwater samples from temporary monitoring locations.

2.0 OBJECTIVE

Based upon the facts ascertained during the Phase I investigation Rust conducted in August 1995, potentially significant environmental concerns exist with respect to the site from the heavy industrial nature and age of the surrounding properties. Several adjacent properties are under investigation to assess the extent of further action under CERCLA by the Illinois Environmental Protection Agency (IEPA). The approximate age (1987) and type of industry at the subject site most likely limits potential contamination, if present, on site, to off-site sources.

The project objective was to determine if constituents are present which may represent a potential threat to the property.

3.0 GROUNDWATER SAMPLING

A portable Geo-Probe Model 8-ML Soil Probing Unit using hydraulic powered probe was mobilized by Rust on January 25, 1996 to the facility for the purpose of obtaining up to four groundwater samples at a maximum depth of twenty feet.

The soil boring/groundwater sampling locations are presented in Figure 1 and are as follows:

Sampling point # 1 - West from the trailer area next to the Falling Springs Road;
Sampling point # 2 - South from the nitrogen Plant #2 next to the property line; and
Sampling point # 3 - East from the nitrogen Plant # 1 next to the property line.

A proposed fourth sampling location as presented in the proposal is shown on Figure 2 (e.g., West from the liquid nitrogen tanks next to the Falling Springs Road). This location was not included in the project due to the complex network of underground utility lines which transport nitrogen and hydrogen gas.

The groundwater sampling locations were identified based on the results of the Phase I site assessment, and also on the presumed groundwater flow direction to the west and southwest toward the Mississippi River located about one mile west of the property. The area east and southeast of the site are a potential wetland area.

The sampling locations were confirmed by the IGP and Rust representatives and utility lines marked prior to site activities. In addition, a Health and Safety Plan was prepared by Rust in accordance with 29CFR 1910, meeting applicable requirements of OSHA standards. A copy of the plan is presented in the attachment A.
Due to the weather conditions and complex sampling issues, Rust mobilized project personnel twice to complete the site activities.

3.1 Procedures

The geoprobe was hydraulically advanced at each soil boring location to a termination depth of 20 feet. The probe was then withdrawn several inches to allow infiltration of groundwater into the annulus or a slotted section of rod was utilized at the probe tip. In each case, a fine, heaving sand was encountered that infiltrated the geoprobe rods which made groundwater sampling and field screening using a PID instrument very difficult or in some cases not feasible.

3.2 Decontamination of sampling equipment.

All tools used for groundwater sampling were decontaminated after collection of each sample by a high pressure steamer at an established decontamination area. Wastes generated from the decontamination procedure were disposed in accordance with applicable state and federal regulations.

3.3 Sampling results.

The groundwater samples were analyzed in a state certified laboratory in accordance with SW - 846 as follows:

- Volatile Organic Compounds using Method 8240
- Semivolatile Organic Compounds using Method 8270
- Total Metals - Arsenic, Barium, Cadmium, Chromium, Lead, Mercury, Selenium, Silver- using Method 3010

The laboratory analyses were conducted by Applied Research & Development Laboratory located in Mt. Vernon, Illinois.

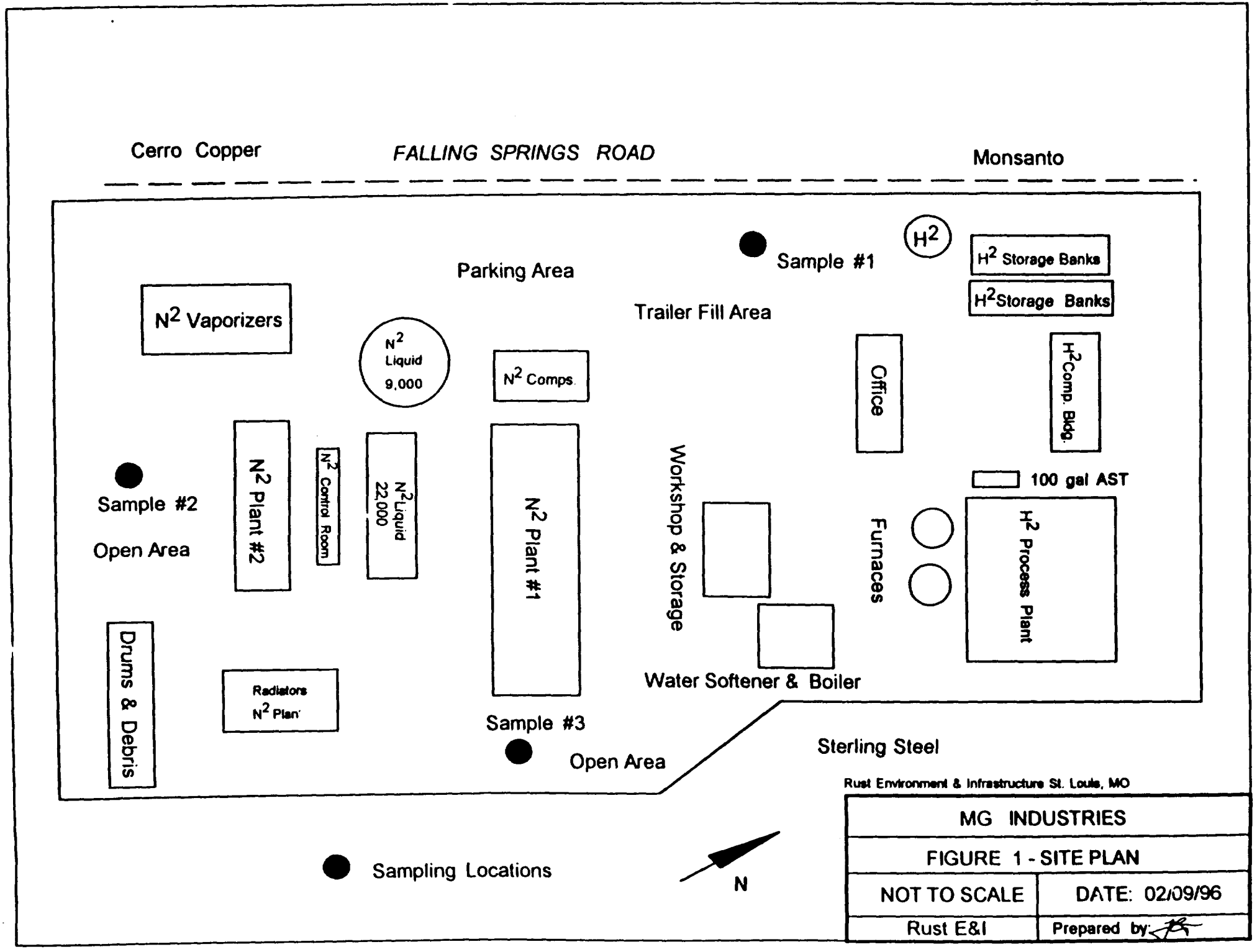
The individual results of all samples are provided in Table 1 which also includes the State of Illinois Groundwater Quality Class I and Class II standards for reference.

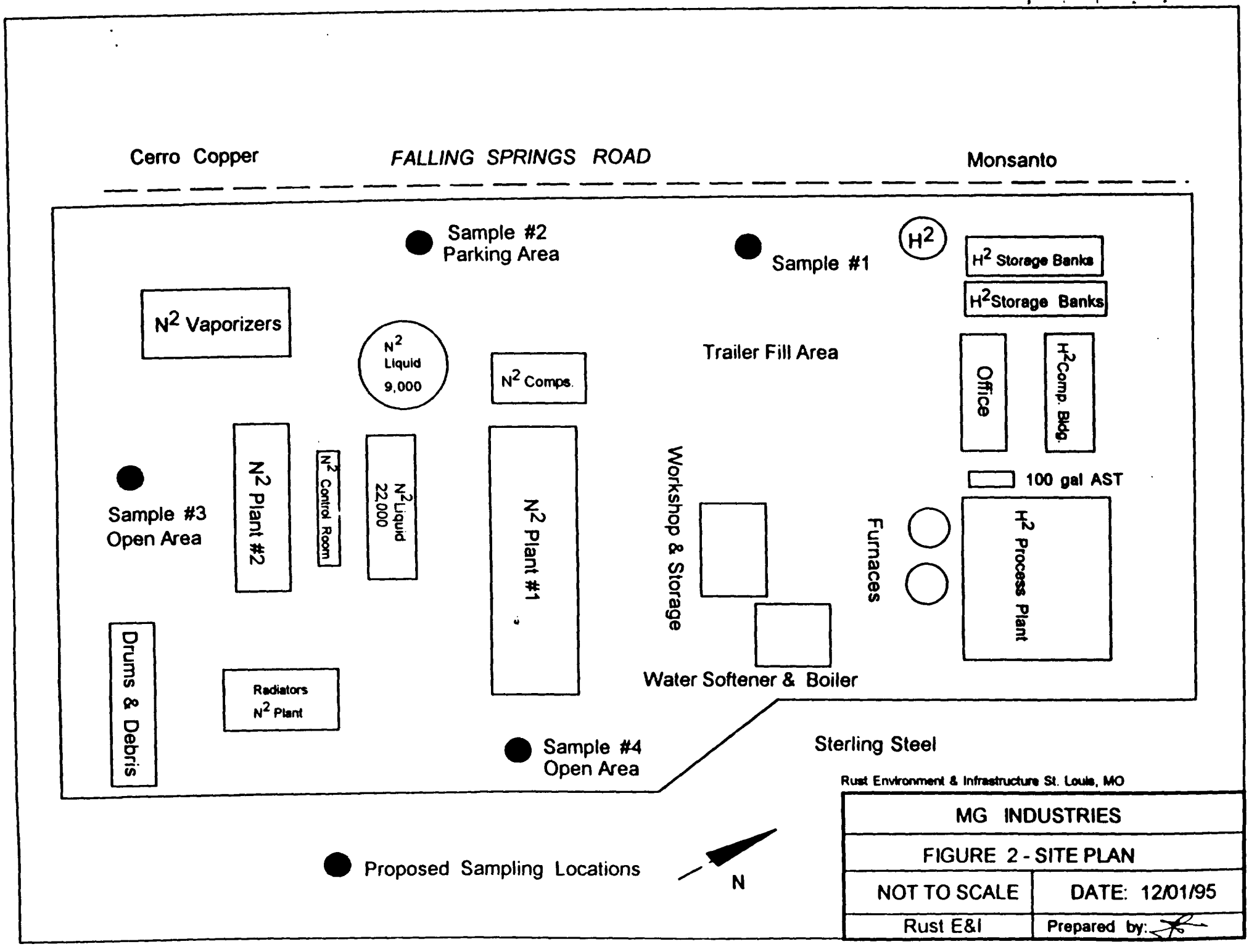
The groundwater sample ID # B-1 from the sampling location #1 was analyzed for the Volatiles Organic Compounds, Semivolatiles Organic Compounds and Total Metals. The following metals were at detection level or above: arsenic at level 0.055 mg/l, barium at level 1.2 mg/l, cadmium at level 0.005 mg/l, chromium at level 0.34 mg/l and lead at level 0.18 mg/l. The Volatile and Semivolatile Organic Compounds were not detected.

The groundwater sample ID # 2 from the sampling location # 2 was analyzed for the Semivolatiles Organic Compounds and Total Metals. The following metals were at detection level or above: arsenic at level 0.076 mg/l, barium at level 2.2 mg/l, cadmium at level 0.0078 mg/l, chromium at level 0.97 mg/l, and lead at level 0.13 mg/l. The Semivolatile Organic Compounds were not detected.

The groundwater sample ID # 3 from the sampling location # 3 was analyzed for Volatile Organic Compounds. Sufficient volume of a sample was not available to analyze for other constituents. The Volatile Organic Compounds were not detected.

The copies of analytical results and chain of custody are presented in the Attachment B.


Cerro Copper
FALLING SPRINGS ROAD
Monsanto
Parking Area
Sample #1
H2
H2 Storage Banks
H2Storage Banks
Trailer Fill Area
N2 Vaporizers
N2 Liquid 9,000
N2 Comps.
Office
H2Comp. Bldg.
100 gal AST
Sample #2
Open Area
N2 Plant #2
N2 Control Room
N2 Liquid 22,000
N2 Plant #1
Workshop & Storage
Furnaces
H2 Process Plant
Drums & Debris
Radiators N2 Plan
Water Softener & Boiler
Sample #3
Open Area
Sterling Steel
Sampling Locations
N
Rust Environment & Infrastructure St. Louis, MO
MG INDUSTRIES
FIGURE 1 - SITE PLAN
NOT TO SCALE
DATE: 02/09/96
Rust E&I
Prepared by:


Cerro Copper
FALLING SPRINGS ROAD
Monsanto
Sample #2
Parking Area
Sample #1
H2
H2 Storage Banks
H2Storage Banks
N2 Vaporizers
N2
Liquid
9,000
N2 Comps.
Trailer Fill Area
Office
H2Comp. Bldg.
100 gal AST
Sample #3
Open Area
N2 Plant #2
N2 Control Room
N2Liquid
22,000
N2 Plant #1
Workshop & Storage
Furnaces
H2 Process Plant
Drums & Debris
Radiators
N2 Plant
Water Softener & Boiler
Sample #4
Open Area
Sterling Steel
Proposed Sampling Locations
N
Rust Environment & Infrastructure St. Louis, MO
MG INDUSTRIES
FIGURE 2 - SITE PLAN
NOT TO SCALE
DATE: 12/01/95
Rust E&I
Prepared by:

Industrial Gas Products Phase II Monitoring

TABLE 1

Groundwater Analytical Results and Standards (MG/L)

Constituent	Sample B-1	Sample B-2	Sample B-3	Standard Class I	Standard Class II
Total Metals					
Arsenic	0.055	0.076	N/A	0.05	0.2
Barium	1.2	2.2	N/A	2	2
Cadmium	0.005	0.0078	N/A	0.005	0.05
Chromium	0.34	0.97	N/A	0.1	1
Lead	0.18	0.13	N/A	0.0075	0.1
Mercury	<0.0002	<0.0002	N/A	0.002	0.01
Selenium	<0.04	<0.04	N/A	0.05	0.05
Silver	<0.005	<0.005	N/A	0.05	-
Volatiles	U	N/A	U	-	-
Semivolatiles	U	U	N/A	-	-

Note: U - indicates compound was analyzed for but not detected
N/A - compound was not analyzed

4.0 CONCLUSIONS

Elevated levels of arsenic, barium, cadmium, chromium, and lead were determined in the groundwater samples collected from the sampling points # 1 and # 2 ranking the results between Class I and Class II Groundwater Standards as stated in the State of Illinois regulations Sections 620.410 and 620.420. Although part of the constituent concentrations may be associated with the particulate matter present in the sample, the likelihood of these parameters exceeding Class II is still high. It is feasible that these levels are associated with metal manufacturing industrial materials (i.e., K061). It is also likely that contamination may be a result of the fill material at adjacent areas to the facility. While the sampling was not done in full conformance with established regulations, the results appear to indicate an issue to evaluate further.

The installation of a permanent well is not recommended at this time unless a soil grid sampling confirms the source is not from a site fill. Furthermore additional information discovery may be warranted regarding adjacent properties. If constituents are found throughout the area, and considered ubiquitous, a demonstration could be made to show soil/groundwater constituents are at the area background level.

It was noted in the Phase I report that a stainless steel well thought to be installed by IEPA is adjacent to the site. Discovery may be revealed if the same constituents are present in previous sampling done by the regulatory agency.

Given the levels of metals which appeared to be associated with soils, an issue of worker exposure and risk may also be evaluated.

APPENDIX A

HEALTH AND SAFETY PLAN

MASTER HEALTH & SAFETY PLAN
FOR
GROUNDWATER INVESTIGATION

December 1995

Submitted to:
MG Industries
3 Great Valley Parkway
Malvern, PA 19355-1424

Prepared by:
Rust Environment & Infrastructure
555 N. New Ballas Road
St. Louis, Missouri 63141

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MASTER
HEALTH AND SAFETY PLAN
FOR
INVESTIGATION, STUDY & DESIGN
MG Industries
Sauget, Illinois

Prepared by: _____ Date: 1/22/96
Joleita Golik
Site Safety Officer
Environmental Engineer
Rust Environment & Infrastructure

Reviewed by: _____ Date: 1/22/96
Robert Clarke
Project Manager
Rust Environment & Infrastructure

Reviewed by: _____ Date: 1/22/96
Richard Tinsley
Region Environmental, Health & Safety Manager
Rust Environment & Infrastructure

1.0 INTRODUCTION

This site-specific Health and Safety Plan (HASP) has been prepared by Rust Environment & Infrastructure (Rust E&I) for *MG Industries* in accordance with the regulatory requirements of 29 CFR 1910.120, "Hazardous Waste Operations and Emergency Response".

The purpose of this HASP is to summarize the project organization and responsibilities; establish Standard Operating Procedures (SOPs) for preventing accidents, injuries, and illnesses; identify hazards, discuss the personal protective equipment that may be used at the site; identify personnel health and safety training requirements; summarize the monitoring techniques to be used; establish emergency procedures; describe the medical surveillance program; identify that appropriate first aid equipment is available; provide for accident reporting; and establish a schedule for safety inspections.

The HASP will be implemented by the Site Safety Officer (SSO) during site work. Compliance with this HASP is required of all personnel who enter this site. Assistance in implementing this plan can be obtained from the Rust E&I Region Environmental, Health & Safety Manager (REHSM), and the Corporate Environmental, Health & Safety Director (CEHSD).

Using the HASP Modification Form presented in Appendix C, the content of this HASP may change or undergo revision based upon additional information made available to health and safety personnel, monitoring results, or changes in the technical scope of work. Any changes proposed must be approved by the REHSM or CEHSD.

1.1 Scope of Work

- Soil Borings/ Groundwater Sampling

The objective of the project is to determine if constituents are present which may represent a potential threat to the property.

The following task will be performed:

On-site activities: TASK1 Samples collection/Laboratory Analysis

Rust will mobilize a portable geoprobe unit to the facility for the purpose of obtaining four groundwater samples at a maximum depth of twenty feet. The sample locations are as follows:

Sampling point #1 - West from the trailer fill area next to the Falling Springs Road;
Sampling point #2 - West from the liquid nitrogen tanks next to the Falling Springs Road;
Sampling point #3 - South from the nitrogen Plant#2 next to the property line; and
Sampling point # 4 - East from the nitrogen Plant#1 next to the property line

The soil samples will be collected from the soil borings and screened on site for potential contamination using PID instrument. The water levels will be also recorded.
The groundwater samples will be analyzed for Volatiles (8240) , Semi-Volatiles (8270) , and Total (8) metals (6010/7000) using SW-846 methodologies.
The Site Plan showing the sampling locations is included in Appendix A.

1.2 Project Personnel

Name/Firm	Title	Work Phone	Home Phone
William Sloan Rust E&I	Project Geologist	314-997-0001	
Robert Clarke Rust E&I	Project Manager	314-997-0001	
Pam Markelz, CSS, CET Rust E&I	Corporate Env., Health & Safety Director	414-451-2775	414-457-4570
Richard Tinsley Rust E&I	Region, Env., Health & Safety Manager	708-955-6600	
Joletta Golik Rust E&I	Site Safety Officer	314-997-0001	

2.0 ASSIGNMENT OF HASP RESPONSIBILITY

The following describes the health and safety designations and general responsibilities which will be implemented for the *MG Industries Site* investigation activities.

2.1 Corporate Environmental, Health & Safety Director (CEHSD)

The CEHSD is responsible for the development of company safety protocols and procedures necessary for field operations and is also responsible for the resolution of any outstanding safety issues which arise during the site work.

2.2 Region Environmental, Health & Safety Manager (REHSM)

The REHSM has overall responsibility for review and approval of this HASP. The REHSM shall approve any changes to this plan due to modification of procedures or newly proposed site activities.

Health and safety-related duties and responsibilities will be assigned only to qualified individuals by the Project Manager. Before personnel may work on site, a current medical examination and acceptable health and safety training must be approved by the division Safety Representative or the REHSM.

2.3 Project Manager

The Project Manager (PM) is responsible for having a project-specific HASP prepared, reviewed and approved prior to the start of on-site activities. In addition, the PM is responsible for assigning a qualified Site Safety Officer (SSO) and project team members. (Refer to Rust E&I General Health & Safety Standard T.00.020, Hazardous Waste Site Training, Appendix A - Site Safety Officer Qualifications).

2.4 Site Safety Officer

The REHSM shall direct the site health and safety efforts through a Site Safety Officer (SSO) as needed. The SSO will be responsible for implementing the HASP. The SSO may direct or participate in on-site activities as appropriate when this does not interfere with primary SSO responsibilities. The SSO has stop-work authorization which he/she will execute upon determination of an imminent safety hazard, emergency situation, or other potentially dangerous situations, such as detrimental weather conditions. Authorization to proceed with work will be issued by REHSM in conjunction with the Project Manager after such action.

2.5 Subcontractors

Subcontracts may be issued for various tasks including soil boring and monitoring well installation. Other subcontracts may be issued for additional tasks, however, none are anticipated. Subcontractors shall comply with the requirements outlined in this HASP and in accordance with OSHA 29 CFR 1910 and 29 CFR 1926; but, in all cases, subcontractors shall be responsible for site safety related to or affected by their own field operations (i.e., heavy equipment operations).

3.0 SITE LOCATION AND DESCRIPTION

3.1 Site Description

MG Industries Site is located at 2350 Falling Springs Road in Sauget, St. Clair County,Illinois.

The subject site is located on a parcel of land which is approximately one acre in size and is located at approximately 410 feet above mean sea level. The site is currently occupied by Industrial Gas Products. The site has a hydrogen production area on land leased from Sterling Steel Casting. The reminder of the site contains a nitrogen production area and the property is owned by Monsanto Chemical. The facility buildings and process lines occupy approximately 70 % of the site.The entire site is on the east side of Falling Springs Road and consists of approximately five buildings housing offices, compressors, and processing equipment. Appendix A contains a Site Location Map and a Site Plan showing the site boundaries and important features.

The heavy industrial nature and age of the surrounding properties make it likely that there is a possibility of some soil and/or groundwater contamination in this area. Several nearby or adjacent properties are under investigation to assess the extent of further action under CERCLA by the Illinois Environmental Protection Agency. The approximate age (1987) and type of industry at the subject site most likely limits potential contamination, if present, on site, to off-site sources.

The groundwater elevations are presumed to be near the surface.

4.0 HAZARD ASSESSMENT

4.1 Material Description/Characterization

The following chemical information is presented in order to identify the types of materials that may be encountered at the *MG Industrial Site*. Detailed information on these materials for hazard assessment purpose will be obtained from:

- ACGIH, Threshold Limit Values and Biological Exposure Indices for 1994-95.
- Chemical Data Sheets.
- NIOSH Pocket Guide to Chemical Hazards - 1994.

The following is a list of chemicals and compounds that are potentially found on-site.

1. Industrial Solvents and Chemicals.

Waste Types:	Liquid __X__	Solid __X__	Gas _____
	Sludge _____	Semi-solid _____	Other _____

Characteristics:	Corrosive _____	Flammable __X__
	Explosive __X__	Volatile __X__
	Radioactive _____	Inert _____
	Other __Toxic__	

The water samples will be tested for Volatiles, Semi-Volatiles compounds, and Total Metals - arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver.
Task specific hazard assessment and control measures are shown in Table 4-1.

TABLE 4-1

TASK SPECIFIC HAZARD ASSESSMENT TABLE
MG Industries

TASK	HAZARD	CONTROL MEASURES
Soil Sampling	Slip, Trip, Fall	General Awareness/Control of Drilling Fluids
	Dermal Contact	Flagging, Access Controls
	Inhalation	PPE
	Thermal Stress	Respiratory Protection
		Work/Rest Cycles, Fluids
	Toxic/Explosive Atmosphere	Continuous Monitoring
Soil Borings	Drill Rig (Heavy Equipment)	Hard Hat, General Awareness
Groundwater	Dermal Contact	Access Controls
Sample Collection	Inhalation	PPE
	Thermal Stress	Respiratory Protection
		Work/Rest Cycles, Fluids
	Toxic/Explosive Atmosphere	Continuous Monitoring
Equipment	Dermal Contact	PPE
Decontamination	Inhalation	Respiratory Protection
	Thermal Stress	Work/Rest Cycles, Fluids
	Slip, Trip, Fall	Access Controls, General Awareness

4.2 Degree of Hazard

On-site hazards include physical and chemical hazards. No radiological, biological, or laboratory wastes are suspected on-site.

4.2.1 Chemical Hazards

The contaminants of concern at the sites can affect the body if they are inhaled, come in contact with the eyes or skin, or are ingested. These compounds may be released during groundwater sampling and soil screening activities. The primary concern is for skin exposure to contaminated soils and potential inhalation of organic vapors or dust released during soil intrusive activities.

Atmospheric monitoring will be conducted during all phases of on-site field activities to determine the need for upgrading to appropriate levels of respiratory protection, as found in Section 9.2. Exposure by skin absorption is a low to moderate possibility, but can be prevented by use of proper protective equipment and good hygiene practices.

4.2.2 Physical Hazards

Primary physical hazards at the site are those associated with drilling operations. Hazards that could be encountered during subsurface activities include falls and trips, injury from lifting heavy objects, falling objects, eye injuries, head injuries, and pinched or crushed hands and feet. Fire hazards may also be present due to the use of gasoline-powered heavy equipment, and the potential for explosive concentrations of vapors from flammable liquids in subsurface soils or volatile organic compounds associated with exposed wastes. During drilling operations, matting and planking may be needed around the drill rig to provide stability for the drill rig. The drilling contractor will make this decision. Rust E&I employees shall not operate subcontractor equipment or handle subcontractor materials and tools, with the exception of subcontractor sampling tools. Also see Section 11.3 Safe Work Practices.

Depending on seasonal weather conditions, there is potential for workers on-site to be affected by heat stress or cold exposure. The SSO will monitor for heat stress or cold exposure in accordance with Section 12.6 of this HASP.

Soil boring activities provide potential for encountering buried hazards such as utilities. It shall be the MG Industries's responsibility to obtain "clearance" from the local utilities prior to initiating intrusive activities. Overhead electrical lines shall also be identified. If encountered, soil intrusive activities will be halted and the REHSM will be notified.

If dusty conditions exist during soil boring activities, the work zone area will be kept wet by spraying the work zone (WZ) with water to provide dust control.

Noise related to soil boring operations during soil boring and monitoring well installations is expected to be minimal; however, as a precaution, hearing protection will be worn.

4.2.3 Additional Precautions

Additional Precautions will include relatively high car/truck traffic in the area, and industrial installations on site connected to the above ground tanks and buildings.

4.2.4 Natural Hazards

Natural hazards such as weather, poisonous plants, bites from poisonous or disease-carrying animals and insects (i.e., snakes, ticks), cannot always be avoided. Refer to Section 12.0 for precautions and emergency procedures.

4.2.5 Confined Space Entry

Confined space entry is not anticipated and is, therefore, not addressed in this HASP. If confined space entry is necessary, work will be halted and the REHSM will be notified.

4.2.6 Spill Containment

Field activities associated with this site are unlikely to require spill containment and are, therefore, not addressed in this HASP.

5.0 TRAINING REQUIREMENTS

5.1 Basic Training Required

Personnel who are required to work in areas where the potential for toxic exposure exists shall complete training and have site experience conforming to the requirements of 29 CFR 1910.120(e). In keeping with 29 CFR 1910.20, medical records and exposure records will be available to workers or his/her designated representative upon request.

Training includes a 40-hour course which describes procedures for working at hazardous waste sites. The procedures include a safety and health program, medical surveillance, decontamination, site characterization and analysis, protective clothing and monitoring equipment, site control work documentation, emergency response, engineering and administrative control to reduce exposure, and site safety evacuation procedures.

Contractors/subcontractors shall provide written documentation that these training/experience requirements have been met. Personnel shall also be trained in the contents of Appendix B, "Respiratory Protection Program."

5.2 Site-Specific Training

Site-specific training will be conducted by the SSO for on-site personnel and visitors to minimize exposure to potential of on-site hazards. Site-specific training will address the activities, procedures, monitoring, and equipment for the field operations.

This training at a minimum will include the following:

1. Site description and history.
2. Project activities, including coordination with other contractors.
3. Hazard evaluation.
4. On-site safety responsibilities.
5. Site control and work zones.
6. Personnel training.
7. Medical monitoring.
8. Atmospheric monitoring.
9. Personal protection, clothing, and equipment.
10. Decontamination procedures.
11. Emergency procedures.
12. Review of site-specific material safety data sheets (MSDSs).
13. Safe work practices.
14. Other elements covered in this site-specific HASP.

This training will also allow field workers to clarify anything they do not understand and to reinforce their responsibilities regarding safe operations. Training must include emergency preparedness, location of assembly areas, proper entry and exit procedures for exclusion zone (EZ), warning systems, location of emergency equipment, and route to the hospital.

5.3 Safety Briefings

Project personnel will be given briefings by the SSO on a daily or as-needed basis to further assist site personnel in conducting their activities safely. Briefings will be provided when new activities are to be conducted, changes in work practices must be implemented due to new information made available, or if site or environmental conditions change. Briefings will also be given to facilitate conformance with prescribed safety practices when performance deficiencies are identified during routine daily activities or as a result of safety audits.

5.4 Safety Audits

The REHSM or CEHSD or designee, as necessary, may conduct safety audits of field operations and subcontractor performance to review for compliance with health and safety policies and procedures. Health and safety audit findings will be documented and corrective action taken.

5.5 First Aid and CPR

At least two individuals shall be trained and qualified to administer first aid and cardiopulmonary resuscitation (CPR).

The SSO will identify the individuals possessing this training in order to ensure that emergency treatment is available during every workshift from a person qualified in first aid and CPR. These courses will be consistent with requirements of the American Red Cross and/or American Heart Association.

6.0 MEDICAL SURVEILLANCE PROGRAM

All Rust E&I personnel and subcontractors performing field work at the *MG Industries Site* will be required to have passed a pre-assignment and/or periodic medical examination that is consistent with 29 CFR 1910.120(f). Medical examinations shall be performed by or under the supervision of a licensed physician, preferably one knowledgeable in occupational medicine. A release for work will be confirmed by the REHSM before an employee can begin hazardous site activities.

Additional medical testing may be required by the REHSM in consultation with the company physician and CEHSD if an overt exposure or accident occurs, or if other site conditions warrant further medical surveillance.

Contractors/subcontractors will maintain the medical records for their own employees, but shall also provide the SSO with written documentation certifying that each employee at the site has met the requirements of the Medical Surveillance Program. This documentation will be provided before the first day of work for each employee assigned to the site. The pre-assignment and annual examinations are essentially the same in content and are the examining physician's discretion but generally include:

- An updated medical and occupational history
- A screening physical examination
- Blood and urine laboratory tests
- Chest X-ray
- Electrocardiogram
- Pulmonary function tests
- Audiometry
- Visual acuity test

At the end of employment or if deemed necessary after a employee's involvement in project-specific site work, he/she may have to complete a medical examination. This examination may be limited to obtaining an internal medical history of the period since the last full examination (consisting of medical history, physician examination, and laboratory tests).

6.1 Job Exposure Report

A Job Exposure Report must be completed at the end of the project for each Rust E&I employee who participated in on-site field activities. The Job Exposure Report must be submitted to the REHSM who will route it to the employee's medical record.

7.0 SITE CONTROL MEASURES

The purpose of the site control measures discussed in this section are to maintain order at the sites and to minimize chemical and physical hazards to on-site personnel, visitors, and the public. Site control zones will include an EZ, a contamination reduction zone (CRZ), and a support zone (SZ). In addition, temporary activity-specific WZ s will be established at specific locations.

7.1 Exclusion Zone

The EZ is the area containing or suspected of containing contaminated materials. Since investigation activities will be conducted throughout the project site, each investigative area boundary shall be delineated as the EZ.

7.1.1 Work Zones

Temporary activity-specific WZ s shall be established at each sampling activity. While completing soil borings and monitoring well installations the WZ shall be established and marked by safety rope or tape. The WZ shall be a radius large enough to encompass the drill rig and allow sufficient space for safe work practices. A CRZ shall be placed at the WZ perimeter at an upwind location. A portable eye wash unit, fire extinguisher, towels, plastic garbage bags, decontamination supplies, and a first aid kit (sufficient to accommodate the field team) shall be placed in this CRZ. These supplies may be located in the vehicle parked adjacent to the WZ.

A temporary WZ shall be established at each sampling location where groundwater samples are to be collected. These WZ areas shall be established by laying about 5 square feet of plastic sheeting next to the sampling location for the placement of equipment and supplies. A portable eye wash, first aid kit (sufficient to accommodate the field team), towels, plastic garbage bags, fire extinguisher, and decontamination supplies are also required in this area, which may be located in the truck.

7.2 Personnel Decontamination

Personnel decontamination areas will be established on-site. Personnel will decontaminate and/or dispose of soiled protective clothing (i.e., disposable boots and gloves, etc.) in the CRZ established next to the temporary WZ. A fixed personnel decontamination area will be establisned adjacent to the fixed equipment decontamination pad where, after equipment decontamination, personnel can decontaminate and dispose of protective clothing and equipment before exiting the EZ. Refer to Section 10 for further decontamination procedures.

7.3 Equipment Decontamination Pad

To prevent off-site transport of contamination, the drill rig and associated equipment and vehicles will be decontaminated at a decontamination pad prior to exiting the EZ. This location will be selected by the SSO and Field Team Leader prior to start-up of field activities at the project site. Drill equipment (augers, rods, etc.) will be steam-cleaned at the decontamination pad as necessary. Decontamination liquids will be allowed to infiltrate into the soil. Refer to Section 10.0 for further decontamination procedures.

Sampling equipment such as stainless steel hand augers, bowls, and spoons may be decontaminated at each sampling location.

7.4 Support Zone

The SZ is considered the uncontaminated area and will be identified by the SSO before field activities begin. It will contain the Command Post which will provide for team communications and emergency response. A mobile telephone will be located in this area. Appropriate sanitary facilities, safety, medical, and support equipment will be identified. No potentially contaminated personnel or materials are allowed in the SZ except for appropriately packaged/decontaminated and labeled samples.

7.5 Site Visitors

Visitors are required to report to the SSO prior to accessing the sites, although none are anticipated. The SSO will document decisions regarding their access to the sites. If granted limited access, visitors must provide the SSO with documented compliance with Section 5.0 of this HASP, comply with other applicable sections, and satisfy additional conditions placed on them as deemed appropriate by the SSO to ensure visitor safety. Visitors must sign in and out daily under the SSO's direction for the duration of their approved visit. Under no circumstances will visitors be allowed to interfere with, or participate in operations within the scope of the field investigation. All visitors shall be escorted throughout the sites by appropriately trained personnel.

As needed, the SSO will establish a designated Level D area as an observation point during intrusive activities. This designated area will be located to offer proximate viewing of site operations, and positioned such that visitors in no way may inhibit site access, logistics, or general operations. Further, the SSO will locate the viewing areas such that visitors present are at minimal risk of exposure to site hazards.

8.0 PERSONAL PROTECTIVE EQUIPMENT

8.1 General

The level of protection to be worn by field personnel will be defined and controlled by the SSO. Personal protective equipment for general operations will be consistent with the requirements of 29 CFR 1910 Subpart I, "Personal Protective Equipment." Basic levels of protection for hazardous waste operations will be selected in accordance with the provisions of 29 CFR 1910.120(g)(3), "Personal Protective Equipment Selection," and Appendix A, "General Description and Discussion of the Levels of Protection and Protective Gear." Modification to basic protective equipment ensembles may be necessary for specific operations. In these cases, further definition will be provided by review of specific hazards, conditions, and proposed operational requirements, and by conducting air monitoring at the particular operation. Protection may be upgraded or downgraded, as deemed appropriate by the SSO and verified by the REHSM.

8.2 Anticipated Levels of Protection For Site Operations

- Groundwater Sampling/Soil Screening Level D/C

Action levels used to determine the need to upgrade or downgrade the levels of protection are described in Section 9.2 of this HASP.

Level D personal protective clothing and equipment includes:

- Disposable Tyvek coveralls. (Polyethylene Coated Tyvek required in sampling areas when splashing by contaminated soils or water is a possibility).
- Hardhat (when overhead hazards exist).
- Safety glasses or goggles.
- Steel toe, steel shank boots.
- Disposable latex gloves - required when handling and collecting soil, water, sediment, and tissue samples.
- Outer neoprene gloves - required when handling and collecting soil, water, sediment, and tissue samples.
- Disposable outer boots - required.

- Noise protection - as warranted.

Level C protective clothing and equipment includes:

- Full-face air-purifying respirator National Institute for Occupational Safety & Health (NIOSH), Mining Safety and Health Administration (MSHA) approved fitted with acid gas/organic vapor/HEPA (High Efficiency Particulate Air Filter) cartridges.
- Disposable Tyvek coveralls. (Polyethylene Coated Tyvek required in sampling areas when splashing by contaminated soils or water is a possibility).
- Disposable latex inner gloves.
- Nitrile outer gloves.
- Hard hat (when overhead hazard exists).
- Steel toe, steel shank boots.
- Disposable outer boots.

Level B protective clothing and equipment includes the above Level C clothing with the addition of a self-contained breathing apparatus (SCBA) or supplied air-line respirator in place of an air-purifying respirator. If action levels are exceeded and based on evaluation of the conditions, and Level C protection is not sufficient and Level B respiratory protection is deemed necessary, work activities will be halted and arrangements for Level B equipment will be implemented.

The use and care of respiratory protection will be in accordance with the protocols described in Appendix B.

9.0 AIR MONITORING AND ACTION LEVELS

9.1 General

It will be necessary to monitor the atmospheric conditions during on-site field sampling activities to determine the possible need to upgrade the personal protection of on-site workers. Atmosphere at the sample extraction point, soil cuttings, and fluids produced during drilling shall be monitored. In addition, air monitoring will be performed in the worker's BZ.

9.1.1 Soil Boring /Groundwater Sampling Operations

These activities shall be initiated in Level D protection with the contingency to upgrade the level of protection based on the action levels.

Monitoring shall be performed continuously during the drilling activities. A flame ionization detector or photoionization detector shall be used to monitor the BZ, the borehole, and all geological samples upon their retrieval. Drill cuttings and fluids produced during drilling shall also be monitored. A Combustible Gas Indicator (CGI) equipped with an oxygen alarm shall be used to monitor the borehole for the presence of combustible gases. Any soil cuttings or fluids produced during drilling shall also be monitored using a PID and/or FID.

9.2 Action Levels

Instrumentation will include a photoionization detector (PID) equipped with a 10.2 eV or 11.7 eV lamp and/or a flame ionization detector (FID). A combustible gas indicator (CGI) will be used to monitor for combustibles. The action levels in this HASP will apply to site work during the duration of activities at the project site.

Instrument	Action Levels	Level of Respiratory Protection/Action
PID/FID	Continuous sustained readings to 1 ppm above background (typically to 0.2 ppm) in BZ	Level D
PID/FID*	Continuous sustained readings of 1 ppm to 5 ppm above background	Level C (based on identification of contaminant)
PID/FID	Continuous readings at	Level B (if applicable)

	5 to 250 ppm above background in BZ	
CGI	<10% LEL	Proceed with caution
CGI	Greater than 10%	Cease work, vent, begin work only after levels return to 0%

If visible dust is detected while working in Level D, upgrade to Level C respiratory protection is required. However, engineering controls, such as wetting the WZ area with water to control dust, will be implemented when feasible.

*In the event any action levels are exceeded, work activities shall be halted, and an attempt will be made to identify the contaminants present using colorimeter indicator tubes so that correct respiratory protection can be selected and action levels may be adjusted higher or more conservatively. The SSO shall notify the REHSM immediately prior to upgrading the level of respiratory protection.

9.3 Exposure Monitoring/Air Sampling Program

9.3.1 Personal and Perimeter Monitoring

Personal and perimeter air monitoring will not be conducted unless Level D action levels are exceeded in the EZ. The determination to perform personal and perimeter air monitoring will be determined by the REHSM after discussions with SSO. If an air monitoring program is deemed necessary, work activities will be halted and a monitoring plan will be developed.

9.4 Instrument Calibration and Maintenance

Instrument calibration and maintenance shall be performed according to manufacturer's specifications and documented on Field Instrument Calibration Logs or Field Log Books. FID calibration shall be completed along with a FID calibration check on a daily basis. Combustible gas/oxygen meters shall be calibrated according to manufacturer's recommended frequency (i.e., daily or weekly).

10.0 DECONTAMINATION PROCEDURES

The SSO shall determine the level of decontamination necessary based on the evaluation of specific work activities and the potential degree of contamination. Temporary CRZs shall be established at each sampling location.

10.1 Equipment

The drill rig, associated equipment, and vehicles will be decontaminated at a location on-site selected by the SSO prior to start-up of field activities in the EZ. Drilling equipment (augers, rods, etc.) will be steam-cleaned between sampling locations. These decontaminations will be performed on the ground away from the drilling location.

Non-disposable sampling equipment will be decontaminated before use, between samples, and before leaving the sampling location.

Equipment that cannot be immersed in soap solution and water will be wiped clean and rinsed with distilled water.

10.2 Personnel

Personnel will perform decontamination in the personal decontamination area. Decontamination of personnel in Level D will consist of removal and disposal of coveralls (when worn) disposable boots, and gloves. Decontamination of personnel using Level C protective equipment will consist of:

- Washing boots, waders, or other non-disposable protective equipment (i.e., hard hat, safety glasses/goggles, etc.) suspected of being contaminated using soap solution followed by potable or distilled water rinse.
- Removal and disposal of boot covers and waders if worn.
- Removal and disposal of coveralls.
- Removal and disposal of outer gloves.
- Removal, cleaning, and storage of respiratory equipment.
- Removal and disposal of inner gloves.

10.3 Contamination Prevention

One of the most important aspects of decontamination is the prevention of contamination. Good contamination prevention should minimize worker exposure and help ensure valid sample results by precluding cross-contamination. Procedures for contamination avoidance include:

Personnel

- Know the limitations of all personal protective equipment being used.
- Do not walk through areas of obvious or known contamination.
- Do not handle or touch contaminated materials directly. Do not sit or lean on potentially contaminated surfaces.
- Make sure all personal protective equipment has no cuts or tears prior to donning.
- Fasten all closures on suits, covering with tape, if necessary.
- Particular care should be taken to protect any skin injuries.
- Stay upwind of airborne contaminants.
- Do not carry cigarettes, gum, food, or candy into contaminated areas.
- On-site personnel are encouraged to shower at the end of their work day.

Sampling/Monitoring

- Cover instruments with clear plastic, leaving openings for sampling ports, and sensor points.
- Bag sample containers prior to placement of sample material into containers.

Heavy Equipment

- Care should be taken to limit the surface area of equipment that comes into contact with contamination.

General

- If contaminated tools are to be placed on noncontaminated equipment for transport to the decontamination pad, plastic should be used to keep the equipment clean.

- Spoils from sampling work should be placed so as not to be in the expected paths of individuals.

10.4 Disposal Procedures

Waste materials and other field equipment/supplies shall be handled in such a way as to preclude the potential for spreading contamination, creating a sanitary hazard, or causing litter to be left on-site.

11.0 GENERAL SAFE WORK PRACTICES AND COMMUNICATIONS

11.1 Safety Equipment

Basic emergency and first aid equipment will be available at the SZ and/or the CRZ, as appropriate. This shall include communications equipment, first aid kit (sufficient to accommodate field team), emergency eye wash, and other safety-related equipment. Fire extinguishers will be provided, inspected, and available on-site.

11.2 Communications

Walkie Talkies - Hand-held units shall be used as much as possible by field teams for communication between downrange operations and the Command Post base-station.

Telephones - A mobile telephone will be located in the Command Post area in the SZ for communication with emergency support services/facilities.

Hand Signals - Hand signals will be used by downrange field teams in conjunction with the buddy system. These signals are very important when working with heavy equipment. They shall be known by the entire field team before operations commence and reviewed during site-specific training.

Signal	Meaning
• Hand gripping throat	Out of air; can't breathe
• Grip partner's wrist	Leave area immediately; no debate
• Hands on top of head	Need assistance
• Thumbs up	OK; I'm all right; I understand
• Thumbs down	No; negative

11.3 Safe Work Practices

The following safe work practices will be implemented during site operations:

- Only properly trained and equipped personnel will be allowed to work in potentially contaminated areas.

- The number of personnel and equipment in the sampling areas will be kept to a minimum, consistent with safe site operations.

- Workers shall adhere to the "buddy system" while working downrange and in designated EZ s. Radio contact shall be maintained between pairs on-site in order to assist each other in case of emergencies.

- Workers shall not exit EZ s until soiled equipment and clothing have been removed and decontaminated or properly disposed of.

- Eating, drinking, chewing gum or tobacco, smoking, or any practice that increases the probability of hand-to-mouth transfer, ingestion, and inhalation of potentially contaminated materials is prohibited.

- As necessary, personnel will thoroughly wash their hands and faces upon leaving the investigation areas.

- Contact with potentially contaminated materials and surfaces shall be avoided. Personnel shall comply with contamination control measures.

- Personnel with facial hair or other facepiece seal obstructions will not be permitted to work where respirators are required.

- Work shall only be conducted if adequate illumination is provided, i.e., visual observation is not impaired due to loss of daylight conditions.

Drilling

While the drilling subcontractor is responsible for safe means and methods of operating their drill rigs, (refer to Section 2.5 of this HASP), personnel working near drill rig operations shall be aware of the following safe work practices:

- Drillers shall inform personnel working with drill rig activities, (i.e., soil boring operations) as to the location of the emergency stop device.

- No drilling within 20 feet in any direction of overhead power lines will be permitted. The locations of all underground utilities must be identified and marked prior to initiating any subsurface activities.

- In the event the drill rig would come in contact with an electrical source, do not touch any part of the equipment or attempt to enter or leave it. Do not touch any person who may be in contact with electrical current. If rescue is attempted, only use a dry, clean rope or unpainted wooden pole.

- Personnel must develop hand signals with equipment operators.

- A remote sampling device must be used to sample drill cutting if the tools are rotating or if the tools are readily capable of rotating. Samplers must not reach into or near the rotating equipment. If personnel must work near any tools which could rotate, the driller must shut down the rig prior to initiating such work.

- Drillers, helpers, and samplers must secure all loose clothing when in the vicinity of drilling operations.

- "All" compressed gas cylinders must be stored and used in an upright position, properly secured and protected from damage, and segregated and labeled as empty, full, or in use.

12.0 EMERGENCY PREPAREDNESS

12.1 Emergency Coordinator

The Site Emergency Coordinator shall be the SSO. The SSO shall verify appropriate emergency contacts before beginning work on-site.

EMERGENCY PHONE NUMBERS:

Police Department:	911
Fire Department:	911
Hospital:	St. Mary's in East St. Louis - 618-274-1900 129 North 8th Street East St. Louis, IL 62201
Hospital	Barnes Hospital in St. Louis - 314-362-5002 #1 Barnes Hospital Plaza St.Louis, MO 63110
Ambulance:	in Cahokia 618-274-2550

National or Regional Sources of Assistance:

Corporate Environmental, Health & Safety Director	414-451-2775
Region Environmental, Health & Safety Manager	
EPA (RCRA-Superfund Hotline)	800-424-9346
Chemtrec (24 Hours)	800-424-9300
Bureau of Explosives (24 Hours)	202-293-4048
Centers for Disease Control (Biological Agents)	404-633-5313
National Response Center (NRC)	800-424-8802
DOT (Office of Hazardous Operations)	202-426-0656
DOT (Regulatory Matters)	202-426-2075
U.S. Coast Guard (Major Incidents)	800-424-8802
Pesticide Health Hotline	800-858-7378
EMR Inc. (Rust E&I Medical Provider) Dr. Elayne Theriault	800-229-3674

HOSPITAL ROUTE:

St. Mary's Hospital in East St. Louis

From Sauget, Il take Route 3 West to Eight Street in East St. Louis- distance approximately about one mile.

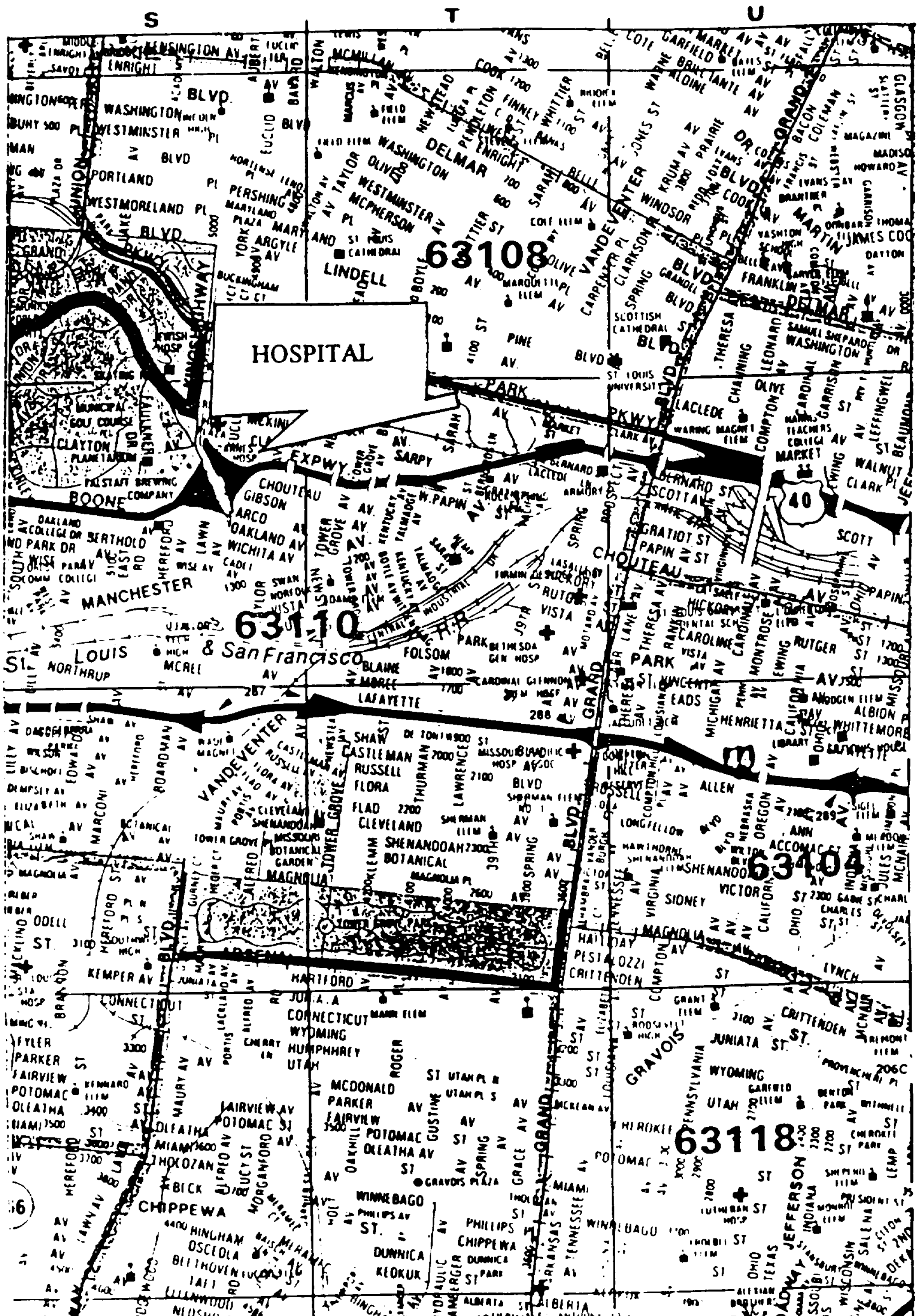
Barnes Hospital in St. Louis

Highway 40 west to St. Louis, turn north to Kingshighway
Hospital is 1/4 mile from the intersection on right.

Joins map on page 44

FIGURE 12-1

HOSPITAL LOCATION MAPS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HOSPITAL
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63104
63118
& San Francisco
DELMAR
LINDELL
VANDEVENTER
CHOUTEAU
GRAND
JEFFERSON
GRAVOIS
MANCHESTER
CHIPPEWA
LAFAYETTE
FOLSOM
BOONE
40

12.5 Overt Chemical Exposure

Typical response procedures include:

SKIN CONTACT:	Use copious amounts of cleaner and water. Wash/rinse affected area thoroughly, then provide appropriate medical attention. Eye wash will be provided on-site at the CRZ and/or SZ. Eyes should be rinsed for 15 minutes upon chemical contamination.
INHALATION:	Move to fresh air and/or, if necessary, decontaminate/transport to hospital.
INGESTION:	Decontaminate and transport to emergency medical facility.
PUNCTURE WOUND OR LACERATION:	Decontaminate and transport to emergency medical facility. The SSO will provide medical data sheets to medical personnel as requested.

12.6 Adverse Weather Conditions

In the event of adverse weather conditions, the SSO will determine if work can continue without endangering the health and safety of field workers. Some items to be considered before determining if work should continue are:

- Potential for heat stress and heat-related injuries.
- Potential for cold stress and cold-related injuries.
- Treacherous weather-related working conditions (i.e. mud, ice, rain).
- Limited visibility.
- Potential for electrical storms.

12.6.1 Heat Stress

The SSO shall visually monitor personnel to note for signs of heat stress. Field personnel will also be instructed to observe for symptoms of heat stress and methods on how to control it. One or more of the following control measures can be used to help control heat stress:

- Provide adequate liquids to replace lost body fluids. Personnel must replace water and

salt lost from sweating. Personnel must be encouraged to drink more than the amount required to satisfy thirst. Thirst satisfaction is not an accurate indicator of adequate salt and fluid replacement.

- Replacement fluids can be commercial mixes such as Gatorade.
- Establish a work regime that will provide adequate rest periods for cooling down. This may require additional shifts of workers.
- Cooling devices such as vortex tubes or cooling vests can be worn beneath protective garments.
- Breaks are to be taken in a cool rest area (77°F is best).
- Personnel shall remove impermeable protective garments during rest periods.
- Personnel shall not be assigned other tasks during rest periods.
- Personnel shall be informed of the importance of adequate rest, acclimation, and proper diet in the prevention of heat stress.

One of the following biological monitoring procedures may be used when the workplace temperature is 70°F or above.

- Heart rate (HR) shall be measured by the pulse for 30 seconds as early as possible in the resting period. The HR at the beginning of the rest period should not exceed 110 beats/minute. If the HR is higher, the next work period should be shortened by 10 minutes (or 33 percent), while the length of rest period stays the same. If the pulse rate is 100 beats/minute at the beginning of the next rest period, the following work cycle should be shortened by 33 percent. The length of the initial work period will be determined by using the table below.

PERMISSIBLE HEAT EXPOSURE THRESHOLD LIMIT VALUES

	Work Load		
Work-Rest Regimen	Light	Moderate	Heavy
Continuous Work	80.0°F	80.0°F	77.0°F

75% Work - 25% Rest, Each Hour	87.0°F	82.4°F	78.6°F
50% Work - 50% Rest, Each Hour	88.5°F	85.0°F	82.2°F
25% Work - 75% Rest, Each Hour	90.0°F	88.0°F	86.0°F

- Body temperature shall be measured orally with a clinical thermometer as early as possible in the resting period. Oral Temperature (OT) at the beginning of the rest period should not exceed 99°F. If it does, the next work period should be shortened by 10 minutes (or 33 percent), while the length of the rest period stays the same. However, if the oral temperature exceeds 99.7°F at the beginning of the next rest period, the following work cycle shall be further shortened by 33 percent. OT should be measured at the end of the rest period to make sure that it has dropped below 99°F. At no time shall work begin with the oral temperature above 99°F.

12.6.2 Cold Exposure

If field activities occur during a period when temperatures average below freezing, the following guidelines will be followed.

Persons working outdoors in temperatures at or below freezing may be subject to frostbite. Extreme cold for a short time may cause severe injury to the surface of the body, or result in profound generalized cooling of the body core, resulting in coma and death. Areas of the body which have high surface area-to-volume ratio such as fingers, toes, and ears are the most susceptible.

Two factors influence the development of a cold injury; ambient temperature and the velocity of the wind. Wind chill is used to describe the chilling effect of moving air in combination with low temperature. For instance, 10°F with a 15-mile per hour (mph) wind is equivalent to chilling still air to -18°F. Refer to Table 12-1 Windchill Index.

As a general rule, the greatest incremental increase in wind chill occurs when a wind of 5 mph increases to 10 mph. Additionally, water conducts heat 240 times faster than air. Thus, the body cools suddenly when chemical-protective equipment is removed if the clothing underneath is perspiration-soaked.

Local injury resulting from cold is included in the generic term frostbite. There are several degrees

of damage. Frostbite of the extremities can be categorized into:

- Frost nip or incipient frostbite: Characterized by sudden blanching or whitening of skin.
- Superficial frostbite: Skin has a waxy or white appearance and is firm to the touch, but tissue beneath is resilient.
- Deep frostbite: Tissue is cold, pale, and solid; extremely serious injury.

Prevention of frostbite is vital. Keep the extremities warm. Wear insulated clothing as part of one's protective gear during extremely cold conditions. Check for symptoms of frostbite at every break. The onset is painless and gradual--you may never know you have been injured until it is too late.

TABLE 12-1
WINDCHILL INDEX

Wind Speed in mph	ACTUAL THERMOMETER READING (F):									
	50	40	30	20	10	0	-10	-20	-30	-40
	EQUIVALENT TEMPERATURE (F):									
Calm	50	40	30	20	10	0	-10	-20	-30	-40
5	48	37	27	16	6	-5	-15	-26	-36	-47
10	40	28	16	4	-9	-21	-33	-46	-58	-70
15	36	22	9	-5	-18	-36	-45	-58	-72	-85
20	32	18	4	-10	-25	-39	-53	-67	-82	-96
25	30	16	0	-15	-29	-44	-59	-74	-88	-104

30	28	13	-2	-18	-33	-48	-63	-79	-94	-109
35	27	11	-4	-20	-35	-49	-67	-82	-98	-113
40	26	10	-6	-21	-37	-53	-69	-85	-100	-116
over 40 mph (little added effect)	Little Danger (1 or properly clothed person)				Increased Danger			Great Danger (Danger from freezing of exposed flesh)		

Source: Fundamentals of Industrial Hygiene, Third Edition, Plog, B.A., Benjamin, G.S., Kerwin, M.A., National Safety Council, 1988.

To administer first aid for frostbite, bring the victim indoors and rewarm the areas quickly in water between 39°C and 41°C (102°F to 105°F). Give a warm drink–not coffee, tea, or alcohol. The victim should not smoke. Keep the frozen parts in warm water or covered with warm clothes for 30 minutes, even though the tissue will be very painful as it thaws. Then elevate the injured area and protect it from injury. Do not allow blisters to be broken. Use sterile, soft, dry material to cover the injured areas. Keep victim warm and get immediate medical care.

After thawing, the victim should try to move the injured areas a little, but no more than can be done alone (without help).

- Do not rub the frostbitten part (this may cause gangrene).
- Do not use ice, snow, gasoline, or anything cold on frostbite.
- Do not use heat lamps or hot water bottles to rewarm the frostbitten area.
- Do not place the body part near a hot stove.

Systemic hypothermia is caused by exposure to freezing or rapidly dropping temperature. Its symptoms are usually exhibited in five stages: 1) shivering; 2) apathy, listlessness, sleepiness, and (sometimes) rapid cooling of the body to less than 95°F; 3) unconsciousness, glassy stare, slow pulse, and slow respiratory rate; 4) freezing of the extremities; and, finally, 5) death.

Effects arising from cold exposure will be minimized by providing workers with insulated clothing when the equivalent chill temperature is less than 30°F as defined and presented in the ACGIH booklet in Table 5. Furthermore, field activities will generally be curtailed or halted if the equivalent chill temperature is below -20°F. The ultimate responsibility for delaying work at a site due to inclement weather rests with the SSO.

12.7 Poison Ivy

If personnel come in contact with poison ivy, the individual should immediately wash the affected area with Ivy Cleaner provided in the first aid kit. If a rash develops, it should be treated at a medical facility as soon as possible.

12.8 Snakes and Ticks

12.8.1 Snake Bite Prevention and First Aid

On project sites, precautions against the possible presence of snakes should be taken when walking through overgrown vegetation and when moving debris (i.e. lumber, scrap metal, etc.). If someone is bitten by a snake, and the snake bite occurs in a location that is within a 1-hour drive of a medical

facility, a conservative approach is safest. Keeping the victim quiet, lying or sitting, and reassuring him/her is all that is required. He/she should be transported safely (no speeding) to the nearest medical facility. For the reassurance of both the victim and the first aider, a snake bite is not nearly as dangerous as popular mythology would suggest. In North America, death from snake bite to healthy adults is very rare. Many bites, even from known poisonous snakes, do not result in a significant amount of venom being injected. Even when significant envenom occurs, symptoms develop slowly over many hours and can be controlled with appropriate treatment. Field treatments advised against include ice, cutting and suction around the wound, and tourniquets. Studies indicate that ice leads to increased tissue destruction. Cutting and sucking out the wound can be shown to offer some help if it is done with the correct technique and equipment and if the victim has received a large dose of venom. In light of the damage that can be done, the risk of such a procedure is too high. It is best to transport the person immediately to a medical facility.

12.8.2 Tick Bite Prevention and First Aid

Routinely check for ticks after being outdoors. Remove ticks as soon as possible before they embed. To minimize exposure, wear light-colored clothing so ticks can be detected. Tuck pants into boots or socks and wear long sleeved shirts. Apply tick/insect repellent to clothing.

When a tick is found embedded, remove it by grasping it with a tweezers as close to the skin as possible and gently pull it straight out. Do not twist or jerk the tick because the head may remain embedded. Once the tick is removed, wash the bite area and your hands with soap and water and apply an antiseptic to the bite. Save the tick in a jar labeled with the date and the place where the tick was acquired. A physician may find this information and the tick specimen helpful in diagnosis if an infection results.

12.9 Accident/Injury Reporting and Recordkeeping

The SSO shall maintain logs and reports covering health and safety aspects of the project throughout the duration of work activities. In the event of an on-site accident resulting in an exposure or injury, the SSO shall immediately complete a Supervisor's Incident Report (SIR) and send a copy to the REHSM. The SSO shall be responsible for maintaining on-site, the routinely completed records and forms presented in Appendix C of this HASP.

13.0 HASP ACCEPTANCE

Each field team member shall sign this section after site-specific training is completed and before being permitted to work on site.

I have read and understand this Health and Safety Plan. I will comply with the provisions contained therein.

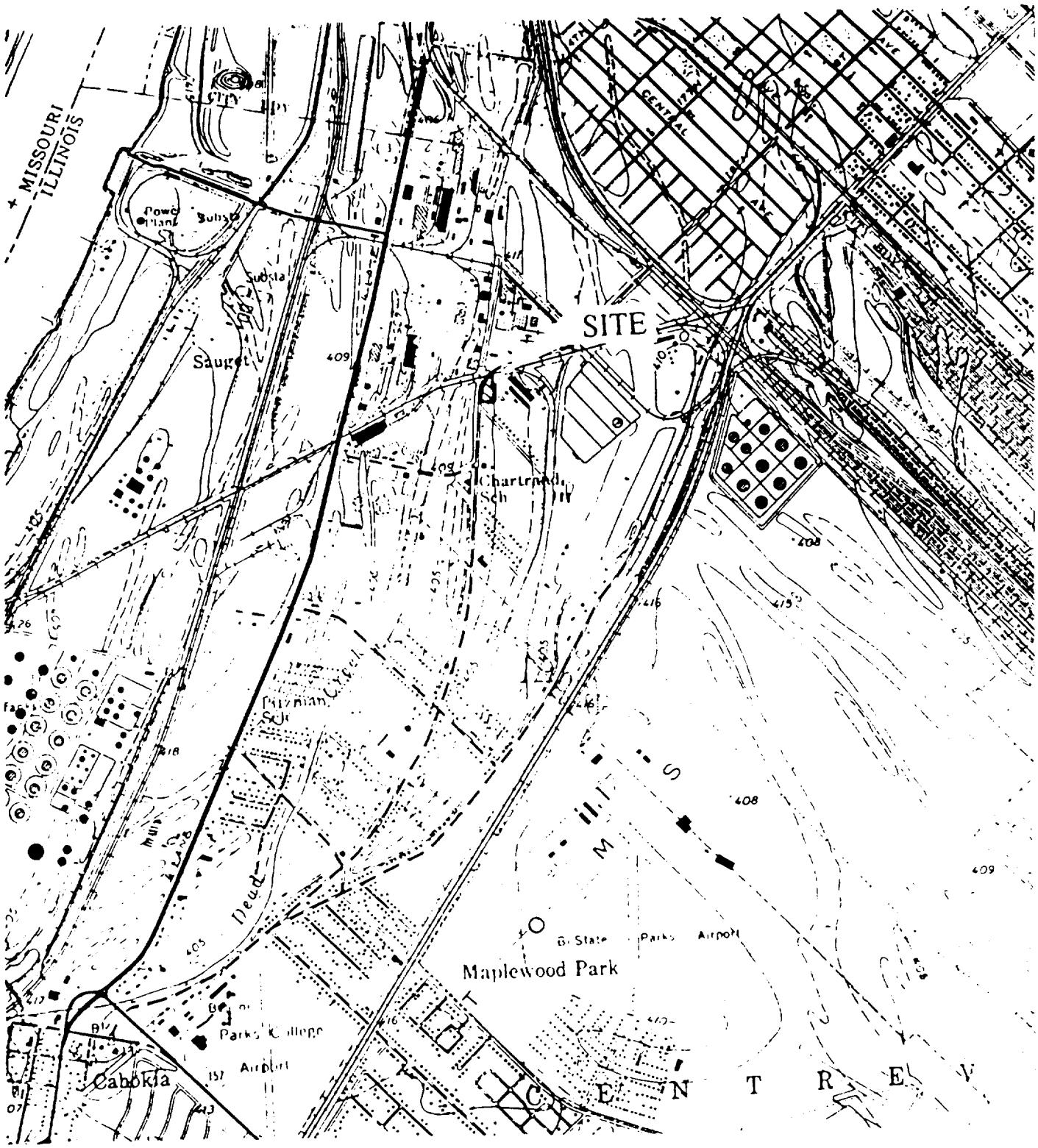
Site/Project: MG Industries Site
2350 Falling Springs Road
Sauget, Illinois

Name Printed	/	Signature	/	Date
Robert Clark	/		/	
YOLETTA GOLIK	/	Golik	/	1/22/96
WILLIAM SLOAN	/	for William Sloan Golik	/	1/22/96
	/		/	
	/		/	
	/		/	
	/		/	

APPENDIX A

Site Location Map

Site Plan



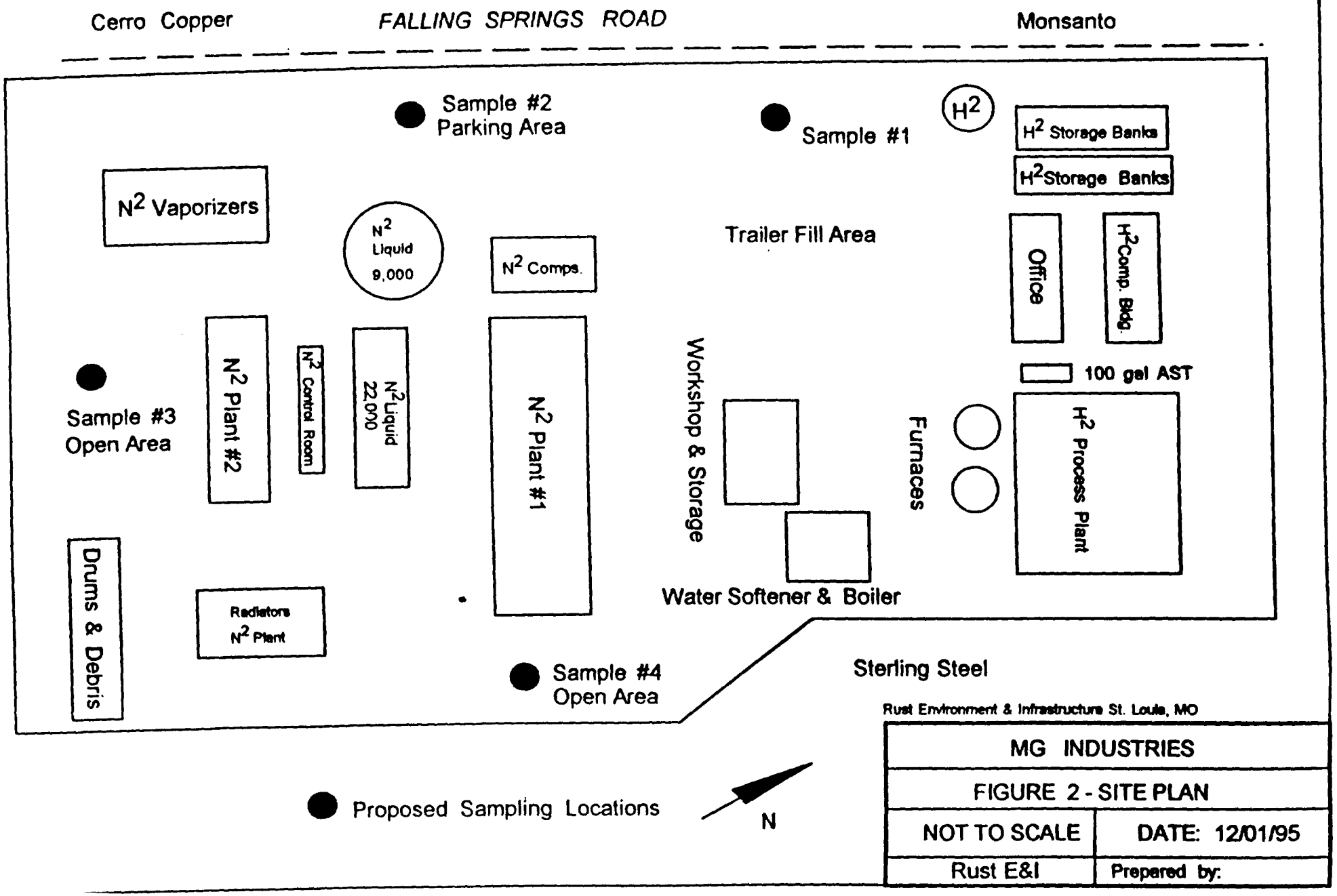
N

ILLINOIS

Source: U.S.G.S. 7½ Minute Topographic Maps

Cahokia Quadrangle, IL-MO

MG INDUSTRIES	
FIGURE 1 - SITE LOCATION MAP Proposed MG Industries Facility 2350 Falling Springs Road Sauget, Illinois	
Scale: 1" = 2000'	Date: July 26, 1995
Prepared by: Rust Environment & Infrastructure	By: TKS



Rust Environment & Infrastructure St. Louis, MO

MG INDUSTRIES	
FIGURE 2 - SITE PLAN	
NOT TO SCALE	DATE: 12/01/95
Rust E&I	Prepared by:

APPENDIX B

RESPIRATOR PROTECTION PROGRAM FOR *MG Industries Site* INVESTIGATION

APPENDIX B

RESPIRATOR PROGRAM FOR *MG Industries Site* INVESTIGATION

The following respirator program is in accordance with OSHA 29 CFR 1910.134 Respiratory Protection Program requirements. This program governs the selection and use of respirators on-site.

Respirators for Rust E&I employees will be provided by Rust E&I. The respirator protection program will be administered by, and is the responsibility of, the REHSM and/or SSO for the site. Subcontractors (i.e., drillers) will furnish their own respirators and medical surveillance for their employees. The REHSM and/or SSO will be responsible for ensuring that they are in compliance with this respirator program.

The respirators will be selected according to the hazard and level of protection determined by monitoring action levels and the decision of the REHSM and/or the SSO. The respirators and levels are:

Level	Respirator
B	Positive Pressure-Pressure Demand SCBA or Supplied Air Respirator with 5-minute escape bottle. Level B is 5 to 250 ppm above background in (BZ).
C	Full-face air purifying respirator with combination dust (HEPA) and organic vapor/acid gas cartridge. Level C is 1 ppm to 5 ppm above background in BZ based on identification of contaminant present. The full facepiece respirator with combination dust and organic vapor/acid gas cartridge will be appropriate for the dust conditions and organics that may be encountered.
D	No respirator required. Continuous reading of background (0.2 ppm) to 1 ppm in the worker's BZ.

The respirator users will be fit tested with the size, style, and make of the respirator they will be using on-site. The fit test will be recorded and these Fit Test Records will be maintained in the Command Post.

Employee respirator training is provided on an annual basis and at site-specific training sessions. This training includes:

- A discussion of the nature of the respiratory hazards and the dangers if the respirator is not used properly.

- The reasons that respirators are required for protection, along with any engineering controls that may be used.
- Instruction in the selection, use, sanitary care, maintenance, proper storage, and limitation of the full facepiece respirator with combination cartridge, and the SCBA.
- Practice in proper fitting, wearing, adjusting, and checking face seal of the respirator.
- An opportunity to handle the respirator.
- Instruction on how to recognize and cope with emergency situations requiring respiratory protection.
- Explanation of the requirements for a self-contained breathing device for work in unknown concentrations and Immediately Dangerous to Life or Health (IDLH) atmosphere and for fire fighting.
- Explanation of the medical surveillance program and how it relates to respirator use.
- Explanation of the requirements for maintaining a tight seal, why beard and facial hair is prohibited, and why use of contact lenses while wearing respirators is prohibited.

Respirators will be assigned to individual workers. Each individual shall be responsible for cleaning and maintaining their assigned respirator. They will be cleaned and disinfected before being reassigned. Respirators will be cleaned after each day of work according to manufacturer's instruction The cleaning will be done at the Command Post. Used cartridges will be disposed of and replaced with new ones.

After cleaning, the respirators will be inspected and checked for defects such as excessive dirt, cracks or other distortions, scratches, incorrectly mounted lens, broken or worn cartridge holders on the facepiece, breaks, loss of elasticity, broken buckles, and excessively worn serrations on head harness that may cause slippage on the head straps or head harness.

Further checks include:

a) A check of the tightness of the connections.

b) A check of the facepiece, valves, connecting tube, and canisters.

c) A check of the regulator and warning devices on SCBA for proper functioning.

d) For air purifying:

(1) Check the exhalation valve after removing its cover for:

- o Foreign material, such as detergent residue, dust particles, or human hair under the valve seat
- o Cracks, tears, or distortion in the valve material
- o Improper insertion of the valve body in the facepiece
- o Cracks, breaks, or chips in the valve body, particularly in the sealing surface
- o Missing or defective valve cover
- o Improper installation of the valve in the valve body.

(2) Check the air purifying elements for:

- o Incorrect cartridges, canister, or filter for the hazard
- o Incorrect installation, loose connections, missing or worn gaskets, or cross threading in holder
- o Expired shelf life of cartridge c. canister
- o Cracks, dents, or breaks in the cartridge or canisters case
- o Evidence of prior use of cartridge or canister, such as broken seal tape foil or other sealing material.

(3) Check the corrugated breathing tube for:

- o Broken or missing end connectors, gaskets, or O-rings
- o Missing or loose hose clamp
- o Deterioration (done by stretching hose and looking for cracks).

e) For air supplied respirators, check the air supply system for:

(1) Integrity and condition of air supply lines and hoses, including attachments and end fitting
(2) Correct operation and condition of all regulators, valves, or other air-flow regulators

(3) If SCBA, that the cylinder is sufficiently charged for the intended use, preferably fully charged (mandatory on an emergency device). The emergency SCBA will have a tag for logging in the monthly inspections.

Monitoring of the work area will be performed and the results will be used to select the appropriate level of protection. Refer to air monitoring section of the HASP (Section 9.0).

This program will be re-evaluated and revisions and updates added regularly.

Persons will not be assigned to tasks requiring the use of respirators unless it has been determined that they are physically able to perform the work and use the equipment. The Rust E&I Medical Director will determine what health and physical conditions are pertinent.

Only those respirators jointly approved by NIOSH/MSHA shall be used. All component parts (i.e., canister, replacement straps, etc.), will be of the same make.

APPENDIX B

ANALYTICAL RESULTS

ORGANIC ANALYSIS DATA PACKAGE

Date: 2/06/96

Lab Name: ARDL, Inc.

ARDL Report No.: 300185 Samples Received at ARDL: 01/26/96

Project Name: Rust E & I

CASE NARRATIVE

Sample ID No.	Lab ID No.	Date Collected	VOLATILES Analysis Date
B-1	300185-01	01/25/96	01/30/96
B-1MS	300185-01MS	01/25/96	01/30/96
B-1MSD	300185-01MSD	01/25/96	01/31/96
B-3	300185-03	01/25/96	01/30/96
BK4 1/30/96	300185-01B1		01/30/96
BK4 1/31/96	300185-03B1		01/31/96

ORGANIC ANALYSIS DATA PACKAGE

Date: 2/06/96

Lab Name: ARDL, Inc.

ARDL Report No.: 300185 Samples Received at ARDL: 01/26/96

Project Name: Rust E & I

CASE NARRATIVE

Sample ID No.	Lab ID No.	Date Collected	SEMI-VOLATILES Extr. Date	SEMI-VOLATILES Analysis Date
B-1	300185-01	01/25/96	01/31/96	02/01/96
B-2	300185-02	01/25/96	01/31/96	02/01/96
BLANK B5016	300185-01B1		01/31/96	02/01/96
LCS B5016 1	300185-01K1		01/31/96	02/01/96
LCS B5016 2	300185-01K2		01/31/96	02/01/96

ORGANIC ANALYSIS DATA PACKAGE

Date: 2/06/96

Lab Name: ARDL, Inc.

ARDL Report No.: 300185 Samples Received at ARDL: 01/26/96

Project Name: Rust E & I

CASE NARRATIVE (Continued)

ORGANIC DATA REPORTING QUALIFIERS (Continued)

C - This flag applies to pesticide results where the identification has been confirmed by GC/MS. If GC/MS confirmation was attempted but was unsuccessful, do not apply this flag, instead use a laboratory-defined flag.

B - This flag is used when the analyte is found in the blank as well as the sample. It indicates possible/probable blank contamination and warns the data user to take appropriate action. This flag must by used for a TIC as well as for a positively identified target compound.

E - This flag identifies compounds whose concentrations exceed the calibration range of the GC/MS instrument for that specific analysis. If one or more compounds have a response greater than full scale, except as noted in Exhibit D, the sample or extract must be diluted and re-analyzed according to the specifications in Exhibit D. All such compounds with a response greater than full scale should have the concentration flagged with an "E" on the Form 1 for the original analysis. If the dilution of the extract causes any compounds identified in the first analysis to be below the calibration range in the second analysis, then the results of both analyses shall be reported on separate copies of Form 1. The Form 1 for the diluted sample shall have the "DL" suffix appended to the sample number.

D - This flag identifies all compounds identified in an analysis at a secondary dilution factor. If a sample or extract is re-analyzed at a higher dilution factor, as in the "E" flag above, the "DL" suffix is appended to the sample number on the Form 1 for the diluted sample, and all concentration values reported on that Form 1 are flagged with the "D" flag.

ORGANIC ANALYSIS DATA PACKAGE

Date: 2/06/96

Lab Name: ARDL, Inc.

ARDL Report No.: 300185 Samples Received at ARDL: 01/26/96

Project Name: Rust E & I

CASE NARRATIVE (Continued)

ORGANIC DATA REPORTING QUALIFIERS

The following organic data reporting qualifiers are used as required.

U - Indicates compound was analyzed for but not detected. The sample quantitation limit must be corrected for dilution and for percent moisture.

J - Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed, or when the mass spectral data indicate the presence of a compound that meets the identification criteria but the result is less than the sample quantitation limit but greater than zero.

N - Indicates presumptive evidence of a compound. This flag is only used for tentatively identified compounds, where the identification is based on a mass spectral library search. It is applied to all TIC results. For generic characterization of a TIC, such as chlorinated hydrocarbon, the N code is not used.

P - This flag is used for a pesticide/Aroclor target analyte when there is greater than 25% difference for detected concentrations between the two GC columns (see Form X). The lower of the two values is reported on Form I and flagged with a "P".

ORGANIC ANALYSIS DATA PACKAGE

Date: 2/06/96

Lab Name: ARDL, Inc.

ARDL Report No.: 300185 Samples Received at ARDL: 01/26/96

Project Name: Rust E & I

CASE NARRATIVE

SEMIVOLATILE FRACTION - METHOD 8270

Two (2) water samples were received by ARDL, Inc. on January 26, 1996, for BNA analysis by GC/MS. All analyses were performed according to low level protocol.

There was insufficient sample to perform a matrix spike and matrix spike duplicate evaluation for this site. Two spiked blanks were extracted and analyzed for QC purposes.

No unusual problems were encountered during the sample analyses.

VOLATILES FRACTION - METHOD 8240

Two (2) samples were received by ARDL, Inc. on January 26, 1996, for VOA analysis by GC/MS. Sample B-1 was predominantly water, however, sample B-3 was approximately 80-90% sediment. Both samples were analyzed as waters as instructed.

Sample B-1 caused the detector to stop scanning temporarily at approximately 2.8 minutes into the run. Since the first target analyte elutes at approximately 3.5 minutes and sample analysis resumed prior to that time, the 5 mL run of the sample has been reported. The 5 mL run of Sample B-3 shut down the detector and no data was acquired. A 1:10 dilution of this sample was required and reported herein.

No other problems were encountered during the sample analyses.

ORGANIC ANALYSIS DATA PACKAGE

Date: 2/06/96

Lab Name: ARDL, Inc.

ARDL Report No.: 300185 Samples Received at ARDL: 01/26/96

Project Name: Rust E & I

CASE NARRATIVE (Continued)

ORGANIC DATA REPORTING QUALIFIERS (Continued)

A - This flag indicates that a TIC is a suspected aldol-condensation product.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on diskette has been authorized for the Laboratory Manager or his designee, as verified by the following signature.

Daniel J. Gillespie
Technical Services Manager

ARDL, Inc.

P.O. Box 1566, Mt. Vernon Airport, Rt 15E, Mt. Vernon, IL 62864
(618) 244-3235 Phone (618) 244-1149 Fax

CHAIN OF CUSTODY RECORD

PROJECT

SAMPLERS: (Signature)

SAMPLE NUMBER	DATE	TIME	COMP	GRAB	NO. OF CONTAINERS	REMARKS OR SAMPLE LOCATION	PRESERVATION ICED	PRESERVATION SPECIFY CHEMICALS ADDED AND FINAL pH IF KNOWN

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	REMARKS/SPECIAL INSTRUCTIONS:
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	
Received for Laboratory by (Signature)	Date	Time	Shipping Ticket No	

PURCHASE ORDER NO

COPIES: White & Yellow copies accompany sample shipment to laboratory
Pink copy retained by sampler

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B-1

Lab Name: ARDL, INC. Contract: RUST E & I

Lab Code: --- Case No.: 300185 SAS No.: --- SDG No.: ---

Matrix: (soil/water) WATER Lab Sample ID: 300185-01

Sample wt/vol: 5.0 (g/mL) mL Lab File ID: >R7311

Level: (low/med) LOW Date Received: 1/26/96

% Moisture: not dec. --- Date Analyzed: 1/30/96

Column: (pack/cap) CAP Dilution Factor: 1.0

Final extract Volume: --- (uL) Conversion Factor: 1.0

Aliquot Volume: --- (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
74-87-3	Chloromethane	10.	U
74-83-9	Bromomethane	10.	U
75-01-4	Vinyl Chloride	10.	U
75-00-3	Chloroethane	10.	U
75-09-2	Methylene_Chloride	5.	U
67-64-1	Acetone	100.	U
75-15-0	Carbon Disulfide	100.	U
75-35-4	1,1-Dichloroethene	5.	U
75-34-3	1,1-Dichloroethane	5.	U
540-59-0	1,2-Dichloroethene_(total)	5.	U
67-66-3	Chloroform	5.	U
107-06-2	1,2-Dichloroethane	5.	U
78-93-3	2-Butanone	100.	U
71-55-6	1,1,1-Trichloroethane	5.	U
56-23-5	Carbon Tetrachloride	5.	U
108-05-4	Vinyl Acetate	50.	U
75-27-4	Bromodichloromethane	5.	U
78-87-5	1,2-Dichloropropane	5.	U
10061-01-5	cis-1,3-Dichloropropene	5.	U
79-01-6	Trichloroethene	5.	U
124-48-1	Dibromochloromethane	5.	U
79-00-5	1,1,2-Trichloroethane	5.	U
71-43-2	Benzene	5.	U
10061-02-6	trans-1,3-Dichloropropene	5.	U
75-25-2	Bromoform	5.	U
108-10-1	4-Methyl-2-Pentanone	50.	U
591-78-6	2-Hexanone	50.	U
127-18-4	Tetrachloroethene	5.	U
79-34-5	1,1,2,2-Tetrachloroethane	5.	U
108-88-3	Toluene	5.	U
108-90-7	Chlorobenzene	5.	U
100-41-4	Ethylbenzene	5.	U
100-42-5	Styrene	5.	U
1330-20-7	Xylene (total)	5.	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B-1

Lab Name: ARDL, INC. Contract: RUST E & I

Lab Code: --- Case No.: 300185 SAS No.: --- SDG No.: ---

Matrix: (soil/water) WATER Lab Sample ID: 300185-01

Sample wt/vol: 5.0 (g/mL) mL Lab File ID: >R7311

Level: (low/med) LOW Date Received: 1/26/96

% Moisture: not dec. --- Date Analyzed: 1/30/96

Column: (pack/cap) CAP Dilution Factor: 1.0

Soil extract Volume: --- (uL) Soil Aliquot Volume: --- (uL)

Number TICs found: 1

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		Unknown	24.78	5.	JB
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B-3

Lab Name: ARDL, INC. Contract: RUST E & I

Lab Code: --- Case No.: 300185 SAS No.: --- SDG No.: ---

Matrix: (soil/water) WATER Lab Sample ID: 300185-03

Sample wt/vol: 0.5 (g/mL) mL Lab File ID: >R7316

Level: (low/med) LOW Date Received: 1/26/96

% Moisture: not dec. --- Date Analyzed: 1/30/96

Column: (pack/cap) CAP Dilution Factor: 10.0

Final extract Volume: --- (uL) Conversion Factor: 1.0

Aliquot Volume: --- (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
74-87-3	Chloromethane	100.	U
74-83-9	Bromomethane	100.	U
75-01-4	Vinyl Chloride	100.	U
75-00-3	Chloroethane	100.	U
75-09-2	Methylene_Chloride	50.	U
67-64-1	Acetone	1000.	U
75-15-0	Carbon Disulfide	1000.	U
75-35-4	1,1-Dichloroethene	50.	U
75-34-3	1,1-Dichloroethane	50.	U
540-59-0	1,2-Dichloroethene_(total)	50.	U
67-66-3	Chloroform	50.	U
107-06-2	1,2-Dichloroethane	50.	U
78-93-3	2-Butanone	1000.	U
71-55-6	1,1,1-Trichloroethane	50.	U
56-23-5	Carbon Tetrachloride	50.	U
108-05-4	Vinyl Acetate	500.	U
75-27-4	Bromodichloromethane	50.	U
78-87-5	1,2-Dichloropropane	50.	U
10061-01-5	cis-1,3-Dichloropropene	50.	U
79-01-6	Trichloroethene	50.	U
124-48-1	Dibromochloromethane	50.	U
79-00-5	1,1,2-Trichloroethane	50.	U
71-43-2	Benzene	50.	U
10061-02-6	trans-1,3-Dichloropropene	50.	U
75-25-2	Bromoform	50.	U
108-10-1	4-Methyl-2-Pentanone	500.	U
591-78-6	2-Hexanone	500.	U
127-18-4	Tetrachloroethene	50.	U
79-34-5	1,1,2,2-Tetrachloroethane	50.	U
108-88-3	Toluene	50.	U
108-90-7	Chlorobenzene	50.	U
100-41-4	Ethylbenzene	50.	U
100-42-5	Styrene	50.	U
1330-20-7	Xylene (total)	50.	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

B-3

Lab Name: ARDL, INC. Contract: RUST E & I

Lab Code: --- Case No.: 300185 SAS No.: --- SDG No.: ---

Matrix: (soil/water) WATER Lab Sample ID: 300185-03

Sample wt/vol: 0.5 (g/mL) mL Lab File ID: >R7316

Level: (low/med) LOW Date Received: 1/26/96

% Moisture: not dec. --- Date Analyzed: 1/30/96

Column: (pack/cap) CAP Dilution Factor: 10.0

Soil extract Volume: --- (uL) Soil Aliquot Volume: --- (uL)

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
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26.					
27.					
28.					
29.					
30.					

2A

WATER VOLATILE SURROGATE RECOVERY

Lab Name: ARDL, INC. Contract: RUST E & I

Lab Code: --- Case No.: 300185 SAS No.: --- SDG No.: ---

	EPA SAMPLE NO.	S1 (TOL)#	S2 (BFB)#	S3 (DCE)#	OTHER	TOT OUT
01	B-1	103	100	106		0
02	B-1MS	108	107	111		0
03	B-1MSD	112 *	108	107		1
04	B-3	108	107	106		0
05	BK4 1/30/96	100	96	96		0
06	BK4 1/31/96	109	105	108		0
07						
08						
09						
10						
11						
12						
13						
14						
15						
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17						
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19						
20						
21						
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23						
24						
25						
26						
27						
28						
29						
30						

	QC LIMITS
S1 (TOL) = Toluene-d8	(88-110)
S2 (BFB) = Bromofluorobenzene	(86-115)
S3 (DCE) = 1,2-Dichloroethane-d4	(76-114)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D Surrogates diluted out

4A

VOLATILE METHOD BLANK SUMMARY

Lab Name: ARDL, INC. Contract: ---

Lab Code: --- Case No.: --- SAS No.: --- SDG No.: ---

Lab File ID: >R7310 Lab Sample ID: BK4 1/30/96

Date Analyzed: 1/30/96 Time Analyzed: 11:05

Matrix: (soil/water) WATER Level:(low/med) LOW

Instrument ID: HP-4

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
1	B-1	300185-01	>R7311	12:01
2	B-3	300185-03	>R7316	16:33
3	B-1MS	300185-01MS	>R7317	17:12
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				

COMMENTS: _____

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BK4 1/30/96

Lab Name: ARDL, INC. Contract: ---

Lab Code: --- Case No.: --- SAS No.: --- SDG No.: ---

Matrix: (soil/water) WATER Lab Sample ID: 300185-01B1

Sample wt/vol: 5.0 (g/mL) mL Lab File ID: >R7310

Level: (low/med) LOW Date Received: NA

% Moisture: not dec. --- Date Analyzed: 1/30/96

Column: (pack/cap) CAP Dilution Factor: 1.0

Final extract Volume: --- (uL) Conversion Factor: 1.0

Aliquot Volume: --- (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
74-87-3	Chloromethane	10.	U
74-83-9	Bromomethane	10.	U
75-01-4	Vinyl Chloride	10.	U
75-00-3	Chloroethane	10.	U
75-09-2	Methylene_Chloride	5.	U
67-64-1	Acetone	100.	U
75-15-0	Carbon Disulfide	100.	U
75-35-4	1,1-Dichloroethene	5.	U
75-34-3	1,1-Dichloroethane	5.	U
540-59-0	1,2-Dichloroethene_(total)	5.	U
67-66-3	Chloroform	5.	U
107-06-2	1,2-Dichloroethane	5.	U
78-93-3	2-Butanone	100.	U
71-55-6	1,1,1-Trichloroethane	5.	U
56-23-5	Carbon Tetrachloride	5.	U
108-05-4	Vinyl Acetate	50.	U
75-27-4	Bromodichloromethane	5.	U
78-87-5	1,2-Dichloropropane	5.	U
10061-01-5	cis-1,3-Dichloropropene	5.	U
79-01-6	Trichloroethene	5.	U
124-48-1	Dibromochloromethane	5.	U
79-00-5	1,1,2-Trichloroethane	5.	U
71-43-2	Benzene	5.	U
10061-02-6	trans-1,3-Dichloropropene	5.	U
75-25-2	Bromoform	5.	U
108-10-1	4-Methyl-2-Pentanone	50.	U
591-78-6	2-Hexanone	50.	U
127-18-4	Tetrachloroethene	5.	U
79-34-5	1,1,2,2-Tetrachloroethane	5.	U
108-88-3	Toluene	5.	U
108-90-7	Chlorobenzene	5.	U
100-41-4	Ethylbenzene	5.	U
100-42-5	Styrene	5.	U
1330-20-7	Xylene (total)	5.	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BK4 1/30/96

Lab Name: ARDL, INC. Contract: ---

Lab Code: --- Case No.: --- SAS No.: --- SDG No.: ---

Matrix: (soil/water) WATER Lab Sample ID: 300185-01B1

Sample wt/vol: 5.0 (g/mL) mL Lab File ID: >R7310

Level: (low/med) LOW Date Received: NA

% Moisture: not dec. --- Date Analyzed: 1/30/96

Column: (pack/cap) CAP Dilution Factor: 1.0

Soil extract Volume: --- (uL) Soil Aliquot Volume: --- (uL)

Number TICs found: 1 CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		Unknown	24.79	6.	J
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

4A

VOLATILE METHOD BLANK SUMMARY

Lab Name: ARDL, INC. Contract: ---

Lab Code: --- Case No.: --- SAS No.: --- SDG No.: ---

Lab File ID: >R7324 Lab Sample ID: BK4 1/31/96

Date Analyzed: 1/31/96 Time Analyzed: 11:57

Matrix: (soil/water) WATER Level:(low/med) LOW

Instrument ID: HP-4

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
1	B-1MSD	300185-01MD	>R7325	12:57
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				

COMMENTS: _____

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BK4 1/31/96

Lab Name: ARDL, INC. Contract: ---

Lab Code: --- Case No.: --- SAS No.: --- SDG No.: ---

Matrix: (soil/water) WATER Lab Sample ID: 300185-03B1

Sample wt/vol: 5.0 (g/mL) mL Lab File ID: >R7324

Level: (low/med) LOW Date Received: NA

% Moisture: not dec. --- Date Analyzed: 1/31/96

Column: (pack/cap) CAP Dilution Factor: 1.0

Final extract Volume: --- (uL) Conversion Factor: 1.0

Aliquot Volume: --- (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
74-87-3	Chloromethane	10.	U
74-83-9	Bromomethane	10.	U
75-01-4	Vinyl Chloride	10.	U
75-00-3	Chloroethane	10.	U
75-09-2	Methylene_Chloride	5.	U
67-64-1	Acetone	100.	U
75-15-0	Carbon Disulfide	100.	U
75-35-4	1,1-Dichloroethene	5.	U
75-34-3	1,1-Dichloroethane	5.	U
540-59-0	1,2-Dichloroethene_(total)	5.	U
67-66-3	Chloroform	5.	U
107-06-2	1,2-Dichloroethane	5.	U
78-93-3	2-Butanone	100.	U
71-55-6	1,1,1-Trichloroethane	5.	U
56-23-5	Carbon Tetrachloride	5.	U
108-05-4	Vinyl Acetate	50.	U
75-27-4	Bromodichloromethane	5.	U
78-87-5	1,2-Dichloropropane	5.	U
10061-01-5	cis-1,3-Dichloropropene	5.	U
79-01-6	Trichloroethene	5.	U
124-48-1	Dibromochloromethane	5.	U
79-00-5	1,1,2-Trichloroethane	5.	U
71-43-2	Benzene	5.	U
10061-02-6	trans-1,3-Dichloropropene	5.	U
75-25-2	Bromoform	5.	U
108-10-1	4-Methyl-2-Pentanone	50.	U
591-78-6	2-Hexanone	50.	U
127-18-4	Tetrachloroethene	5.	U
79-34-5	1,1,2,2-Tetrachloroethane	5.	U
108-88-3	Toluene	5.	U
108-90-7	Chlorobenzene	5.	U
100-41-4	Ethylbenzene	5.	U
100-42-5	Styrene	5.	U
1330-20-7	Xylene (total)	5.	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

BK4 1/31/96

Lab Name: ARDL, INC. Contract: ---

Lab Code: --- Case No.: --- SAS No.: --- SDG No.: ---

Matrix: (soil/water) WATER Lab Sample ID: 300185-03B1

Sample wt/vol: 5.0 (g/mL) mL Lab File ID: >R7324

Level: (low/med) LOW Date Received: NA

% Moisture: not dec. --- Date Analyzed: 1/31/96

Column: (pack/cap) CAP Dilution Factor: 1.0

Soil extract Volume: --- (uL) Soil Aliquot Volume: --- (uL)

Number TICs found: 1 CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		Unknown	24.77	9.	J
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
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20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

3A

WATER VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: ARDL, INC. Contract: RUST E & I

Lab Code: --- Case No.: 300185 SAS No.: --- SDG No.: ---

Matrix Spike - EPA Sample No.: B-1

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC LIMITS REC.
1,1-Dichloroethene	50.00	0.00	59.00	118	61-145
Trichloroethene	50.00	0.00	50.00	100	71-120
Benzene	50.00	0.00	50.00	99	76-127
Toluene	50.00	0.00	50.00	100	76-125
Chlorobenzene	50.00	0.00	50.00	100	75-130

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1-Dichloroethene	50.00	62.00	123	4	14	61-145
Trichloroethene	50.00	49.00	98	2	14	71-120
Benzene	50.00	48.00	95	4	11	76-127
Toluene	50.00	50.00	100	0	13	76-125
Chlorobenzene	50.00	48.00	97	3	13	75-130

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of qc limits

RPD: 0 out of 5 outside limits
Spike Recovery: 0 out of 10 outside limits

COMMENTS: _____

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B-1MS

Lab Name: ARDL, INC. Contract: RUST E & I

Lab Code: --- Case No.: 300185 SAS No.: --- SDG No.: ---

Matrix: (soil/water) WATER Lab Sample ID: 300185-01MS

Sample wt/vol: 5.0 (g/mL) mL Lab File ID: >R7317

Level: (low/med) LOW Date Received: 1/26/96

% Moisture: not dec. --- Date Analyzed: 1/30/96

Column: (pack/cap) CAP Dilution Factor: 1.0

Final extract Volume: --- (uL) Conversion Factor: 1.0

Aliquot Volume: --- (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
74-87-3	Chloromethane	10.	U
74-83-9	Bromomethane	10.	U
75-01-4	Vinyl Chloride	10.	U
75-00-3	Chloroethane	10.	U
75-09-2	Methylene_Chloride	5.	U
67-64-1	Acetone	100.	U
75-15-0	Carbon Disulfide	100.	U
75-35-4	1,1-Dichloroethene	59.	
75-34-3	1,1-Dichloroethane	5.	U
540-59-0	1,2-Dichloroethene_(total)	5.	U
67-66-3	Chloroform	5.	U
107-06-2	1,2-Dichloroethane	5.	U
78-93-3	2-Butanone	100.	U
71-55-6	1,1,1-Trichloroethane	5.	U
56-23-5	Carbon Tetrachloride	5.	U
108-05-4	Vinyl Acetate	50.	U
75-27-4	Bromodichloromethane	5.	U
78-87-5	1,2-Dichloropropane	5.	U
10061-01-5	cis-1,3-Dichloropropene	5.	U
79-01-6	Trichloroethene	50.	
124-48-1	Dibromochloromethane	5.	U
79-00-5	1,1,2-Trichloroethane	5.	U
71-43-2	Benzene	50.	
10061-02-6	trans-1,3-Dichloropropene	5.	U
75-25-2	Bromoform	5.	U
108-10-1	4-Methyl-2-Pentanone	50.	U
591-78-6	2-Hexanone	50.	U
127-18-4	Tetrachloroethene	5.	U
79-34-5	1,1,2,2-Tetrachloroethane	5.	U
108-88-3	Toluene	50.	
108-90-7	Chlorobenzene	50.	
100-41-4	Ethylbenzene	5.	U
100-42-5	Styrene	5.	U
1330-20-7	Xylene (total)	5.	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B-1MSD

Lab Name: ARDL, INC. Contract: RUST E & I

Lab Code: --- Case No.: 300185 SAS No.: --- SDG No.: ---

Matrix: (soil/water) WATER Lab Sample ID: 300185-01MD

Sample wt/vol: 5.0 (g/mL) mL Lab File ID: >R7325

Level: (low/med) LOW Date Received: 1/26/96

% Moisture: not dec. --- Date Analyzed: 1/31/96

Column: (pack/cap) CAP Dilution Factor: 1.0

Final extract Volume: --- (uL) Conversion Factor: 1.0

Aliquot Volume: --- (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
74-87-3	Chloromethane	10.	U
74-83-9	Bromomethane	10.	U
75-01-4	Vinyl Chloride	10.	U
75-00-3	Chloroethane	10.	U
75-09-2	Methylene_Chloride	5.	U
67-64-1	Acetone	100.	U
75-15-0	Carbon Disulfide	100.	U
75-35-4	1,1-Dicnloroethene	62.	
75-34-3	1,1-Dichloroethane	5.	U
540-59-0	1,2-Dichloroethene_(total)	5.	U
67-66-3	Chloroform	5.	U
107-06-2	1,2-Dichloroethane	5.	U
78-93-3	2-Butanone	100.	U
71-55-6	1,1,1-Trichloroethane	5.	U
56-23-5	Carbon Tetrachloride	5.	U
108-05-4	Vinyl Acetate	50.	U
75-27-4	Bromodichloromethane	5.	U
78-87-5	1,2-Dichloropropane	5.	U
10061-01-5	cis-1,3-Dichloropropene	5.	U
79-01-6	Trichloroethene	49.	
124-48-1	Dibromochloromethane	5.	U
79-00-5	1,1,2-Trichloroethane	5.	U
71-43-2	Benzene	48.	
10061-02-6	trans-1,3-Dichloropropene	5.	U
75-25-2	Bromoform	5.	U
108-10-1	4-Methyl-2-Pentanone	50.	U
591-78-6	2-Hexanone	50.	U
127-18-4	Tetrachloroethene	5.	U
79-34-5	1,1,2,2-Tetrachloroethane	5.	U
108-88-3	Toluene	50.	
108-90-7	Chlorobenzene	48.	
100-41-4	Ethylbenzene	5.	U
100-42-5	Styrene	5.	U
1330-20-7	Xylene (total)	5.	U

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B-1

Lab Name: ARDL, INC. Contract: RUST E & I

Lab Code: --- Case No.: 300185 SAS No.: --- SDG No.: ---

Matrix: (soil/water) WATER Lab Sample ID: 300185-01

Sample wt/vol: 930.0 (g/mL) mL Lab File ID: >W5713

Level: (low/med) LOW Date Received: 1/26/96

% Moisture: not dec. --- dec. --- Date Extracted: 1/31/96

GPC Cleanup: (Y/N) N pH: 6.2 Date Analyzed: 2/01/96

Final Extract Volume: 1000.0 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL) Conversion Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
108-95-2	Phenol	11.	U
111-44-4	bis(2-Chloroethyl)ether	11.	U
95-57-8	2-Chlorophenol	11.	U
541-73-1	1,3-Dichlorobenzene	11.	U
106-46-7	1,4-Dichlorobenzene	11.	U
100-51-6	Benzyl alcohol	11.	U
95-50-1	1,2-Dichlorobenzene	11.	U
95-48-7	2-Methylphenol	11.	U
39638-32-9	bis(2-chloroisopropyl)ether	11.	U
106-44-5	4-Methylphenol	11.	U
621-64-7	N-Nitroso-Di-n-propylamine	11.	U
67-72-1	Hexachloroethane	11.	U
98-95-3	Nitrobenzene	11.	U
78-59-1	Isophorone	11.	U
88-75-5	2-Nitrophenol	11.	U
105-67-9	2,4-Dimethylphenol	11.	U
65-85-0	Benzoic acid	54.	U
111-91-1	bis(2-Chloroethoxy)methane	11.	U
120-83-2	2,4-Dichlorophenol	11.	U
120-82-1	1,2,4-Trichlorobenzene	11.	U
91-20-3	Naphthalene	11.	U
106-47-8	4-Chloroaniline	11.	U
87-68-3	Hexachlorobutadiene	11.	U
59-50-7	4-Chloro-3-methylphenol	11.	U
91-57-6	2-Methylnaphthalene	11.	U
77-47-4	Hexachlorocyclopentadiene	11.	U
88-06-2	2,4,6-Trichlorophenol	11.	U
95-95-4	2,4,5-Trichlorophenol	54.	U
91-58-7	2-Chloronaphthalene	11.	U
88-74-4	2-Nitroaniline	54.	U
131-11-3	Dimethylphthalate	11.	U
208-96-8	Acenaphthylene	11.	U
606-20-2	2,6-Dinitrotoluene	11.	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B-1

Lab Name: ARDL, INC. Contract: RUST E & I

Lab Code: --- Case No.: 300185 SAS No.: --- SDG No.: ---

Matrix: (soil/water) WATER Lab Sample ID: 300185-01

Sample wt/vol: 930.0 (g/mL) mL Lab File ID: >W5713

Level: (low/med) LOW Date Received: 1/26/96

% Moisture: not dec. --- dec. --- Date Extracted: 1/31/96

GPC Cleanup: (Y/N) N pH: 6.2 Date Analyzed: 2/01/96

Final Extract Volume: 1000.0 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL) Conversion Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
99-09-2	3-Nitroaniline	54.	U
83-32-9	Acenaphthene	11.	U
51-28-5	2,4-Dinitrophenol	54.	U
100-02-7	4-Nitrophenol	54.	U
132-64-9	Dibenzofuran	11.	U
121-14-2	2,4-Dinitrotoluene	11.	U
84-66-2	Diethylphthalate	11.	U
7005-72-3	4-Chlorophenyl-phenylether	11.	U
86-73-7	Fluorene	11.	U
100-01-6	4-Nitroaniline	54.	U
534-52-1	4,6-Dinitro-2-methylphenol	54.	U
86-30-6	N-Nitrosodiphenylamine (1)	11.	U
101-55-3	4-Bromophenyl-phenylether	11.	U
118-74-1	Hexachlorobenzene	11.	U
87-86-5	Pentachlorophenol	54.	U
85-01-8	Phenanthrene	11.	U
120-12-7	Anthracene	11.	U
84-74-2	Di-n-butylphthalate	11.	U
206-44-0	Fluoranthene	11.	U
129-00-0	Pyrene	11.	U
85-68-7	Butylbenzylphthalate	11.	U
91-94-1	3,3'-Dichlorobenzidine	22.	U
56-55-3	Benzo(a)anthracene	11.	U
218-01-9	Chrysene	11.	U
117-81-7	bis(2-Ethylhexyl)phthalate	11.	U
117-84-0	Di-n-Octyl_Phthalate	11.	U
205-99-2	Benzo(b)fluoranthene	11.	U
207-08-9	Benzo(k)fluoranthene	11.	U
50-32-8	Benzo(a)pyrene	11.	U
193-39-5	Indeno(1,2,3-cd)pyrene	11.	U
53-70-3	Dibenzo(a,h)anthracene	11.	U
191-24-2	Benzo(g,h,i)perylene	11.	U

(1) - Cannot be separated from Diphenylamine

1F

EPA SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

B-1

Lab Name: ARDL, INC. Contract: RUST E & I

Lab Code: --- Case No.: 300185 SAS No.: --- SDG No.: ---

Matrix: (soil/water) WATER Lab Sample ID: 300185-01

Sample wt/vol: 930.0 (g/mL) mL Lab File ID: >W5713

Level: (low/med) LOW Date Received: 1/26/96

% Moisture: not dec. --- dec. --- Date Extracted: 1/31/96

Concentrated Extract Volume: 1000.0 (uL) Date Analyzed: 2/01/96

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 6.2

Number TICs found: 3

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		Unknown	13.10	5.	J B
2.		Unknown	20.72	9.	J
3.		Unknown	23.80	120.	J
4.					
5.					
6.					
7.					
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1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B-2

Lab Name: ARDL, INC. Contract: RUST E & I

Lab Code: --- Case No.: 300185 SAS No.: --- SDG No.: ---

Matrix: (soil/water) WATER Lab Sample ID: 300185-02

Sample wt/vol: 850.0 (g/mL) mL Lab File ID: >W5714

Level: (low/med) LOW Date Received: 1/26/96

% Moisture: not dec. --- dec. --- Date Extracted: 1/31/96

GPC Cleanup: (Y/N) N pH: 6.5 Date Analyzed: 2/01/96

Final Extract Volume: 1000.0 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL) Conversion Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
108-95-2	Phenol	12.	U
111-44-4	bis(2-Chloroethyl)ether	12.	U
95-57-8	2-Chlorophenol	12.	U
541-73-1	1,3-Dichlorobenzene	12.	U
106-46-7	1,4-Dichlorobenzene	12.	U
100-51-6	Benzyl alcohol	12.	U
95-50-1	1,2-Dichlorobenzene	12.	U
95-48-7	2-Methylphenol	12.	U
39638-32-9	bis(2-chloroisopropyl)ether	12.	U
106-44-5	4-Methylphenol	12.	U
621-64-7	N-Nitroso-Di-n-propylamine	12.	U
67-72-1	Hexachloroethane	12.	U
98-95-3	Nitrobenzene	12.	U
78-59-1	Isophorone	12.	U
88-75-5	2-Nitrophenol	12.	U
105-67-9	2,4-Dimethylphenol	12.	U
65-85-0	Benzoic acid	59.	U
111-91-1	bis(2-Chloroethoxy)methane	12.	U
120-83-2	2,4-Dichlorophenol	12.	U
120-82-1	1,2,4-Trichlorobenzene	12.	U
91-20-3	Naphthalene	12.	U
106-47-8	4-Chloroaniline	12.	U
87-68-3	Hexachlorobutadiene	12.	U
59-50-7	4-Chloro-3-methylphenol	12.	U
91-57-6	2-Methylnaphthalene	12.	U
77-47-4	Hexachlorocyclopentadiene	12.	U
88-06-2	2,4,6-Trichlorophenol	12.	U
95-95-4	2,4,5-Trichlorophenol	59.	U
91-58-7	2-Chloronaphthalene	12.	U
88-74-4	2-Nitroaniline	59.	U
131-11-3	Dimethylphthalate	12.	U
208-96-8	Acenaphthylene	12.	U
606-20-2	2,6-Dinitrotoluene	12.	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

B-2

Lab Name: ARDL, INC. Contract: RUST E & I

Lab Code: --- Case No.: 300185 SAS No.: --- SDG No.: ---

Matrix: (soil/water) WATER Lab Sample ID: 300185-02

Sample wt/vol: 850.0 (g/mL) mL Lab File ID: >W5714

Level: (low/med) LOW Date Received: 1/26/96

% Moisture: not dec. --- dec. --- Date Extracted: 1/31/96

GPC Cleanup: (Y/N) N pH: 6.5 Date Analyzed: 2/01/96

Final Extract Volume: 1000.0 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL) Conversion Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
99-09-2	3-Nitroaniline	59.	U
83-32-9	Acenaphthene	12.	U
51-28-5	2,4-Dinitrophenol	59.	U
100-02-7	4-Nitrophenol	59.	U
132-64-9	Dibenzofuran	12.	U
121-14-2	2,4-Dinitrotoluene	12.	U
84-66-2	Diethylphthalate	12.	U
7005-72-3	4-Chlorophenyl-phenylether	12.	U
86-73-7	Fluorene	12.	U
100-01-6	4-Nitroaniline	59.	U
534-52-1	4,6-Dinitro-2-methylphenol	59.	U
86-30-6	N-Nitrosodiphenylamine (1)	12.	U
101-55-3	4-Bromophenyl-phenylether	12.	U
118-74-1	Hexachlorobenzene	12.	U
87-86-5	Pentachlorophenol	59.	U
85-01-8	Phenanthrene	12.	U
120-12-7	Anthracene	12.	U
84-74-2	Di-n-butylphthalate	12.	U
206-44-0	Fluoranthene	12.	U
129-00-0	Pyrene	12.	U
85-68-7	Butylbenzylphthalate	12.	U
91-94-1	3,3'-Dichlorobenzidine	24.	U
56-55-3	Benzo(a)anthracene	12.	U
218-01-9	Chrysene	12.	U
117-81-7	bis(2-Ethylhexyl)phthalate	12.	U
117-84-0	Di-n-Octyl_Phthalate	12.	U
205-99-2	Benzo(b)fluoranthene	12.	U
207-08-9	Benzo(k)fluoranthene	12.	U
50-32-8	Benzo(a)pyrene	12.	U
193-39-5	Indeno(1,2,3-cd)pyrene	12.	U
53-70-3	Dibenzo(a,h)anthracene	12.	U
191-24-2	Benzo(g,h,i)perylene	12.	U

(1) - Cannot be separated from Diphenylamine

1F

EPA SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

B-2

Lab Name: ARDL, INC. Contract: RUST E & I

Lab Code: --- Case No.: 300185 SAS No.: --- SDG No.: ---

Matrix: (soil/water) WATER Lab Sample ID: 300185-02

Sample wt/vol: 850.0 (g/mL) mL Lab File ID: >W5714

Level: (low/med) LOW Date Received: 1/26/96

% Moisture: not dec. --- dec. --- Date Extracted: 1/31/96

Concentrated Extract Volume: 1000.0 (uL) Date Analyzed: 2/01/96

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: 6.5

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
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1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LCS B5016 1

ab Name: ARDL, INC. Contract: ---

.ab Code: --- Case No.: --- SAS No.: --- SDG No.: ---

atrix: (soil/water) WATER Lab Sample ID: 300185-01K1

;ample wt/vol: 1000.0 (g/mL) mL Lab File ID: >W5711

.evel: (low/med) LOW Date Received: NA

Moisture: not dec. --- dec. --- Date Extracted: 1/31/96

;PC Cleanup: (Y/N) N pH: --- Date Analyzed: 2/01/96

'inal Extract Volume: 1000.0 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL) Conversion Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
108-95-2	Phenol	22.	
111-44-4	bis(2-Chloroethyl)ether	10.	U
95-57-8	2-Chlorophenol	53.	
541-73-1	1,3-Dichlorobenzene	10.	U
106-46-7	1,4-Dichlorobenzene	37.	
100-51-6	Benzyl alcohol	10.	U
95-50-1	1,2-Dichlorobenzene	10.	U
95-48-7	2-Methylphenol	10.	U
39638-32-9	bis(2-chloroisopropyl)ether	10.	U
106-44-5	4-Methylphenol	10.	U
621-64-7	N-Nitroso-Di-n-propylamine	34.	
67-72-1	Hexachloroethane	10.	U
98-95-3	Nitrobenzene	10.	U
78-59-1	Isophorone	10.	U
88-75-5	2-Nitrophenol	10.	U
105-67-9	2,4-Dimethylphenol	10.	U
65-85-0	Benzoic acid	50.	U
111-91-1	bis(2-Chloroethoxy)methane	10.	U
120-83-2	2,4-Dichlorophenol	10.	U
120-82-1	1,2,4-Trichlorobenzene	37.	
91-20-3	Naphthalene	10.	U
106-47-8	4-Chloroaniline	10.	U
87-68-3	Hexachlorobutadiene	10.	U
59-50-7	4-Chloro-3-methylphenol	56.	
91-57-6	2-Methylnaphthalene	10.	U
77-47-4	Hexachlorocyclopentadiene	10.	U
88-06-2	2,4,6-Trichlorophenol	10.	U
95-95-4	2,4,5-Trichlorophenol	50.	U
91-58-7	2-Chloronaphthalene	10.	U
88-74-4	2-Nitroaniline	50.	U
131-11-3	Dimethylphthalate	10.	U
208-96-8	Acenaphthylene	10.	U
606-20-2	2,6-Dinitrotoluene	10.	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LCS B5016 1

Lab Name: ARDL, INC. Contract: ---

Lab Code: --- Case No.: --- SAS No.: --- SDG No.: ---

Matrix: (soil/water) WATER Lab Sample ID: 300185-01K1

Sample wt/vol: 1000.0 (g/mL) mL Lab File ID: >W5711

Level: (low/med) LOW Date Received: NA

% Moisture: not dec. --- dec. --- Date Extracted: 1/31/96

GPC Cleanup: (Y/N) N pH: --- Date Analyzed: 2/01/96

Final Extract Volume: 1000.0 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL) Conversion Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
99-09-2	3-Nitroaniline	50.	U
83-32-9	Acenaphthene	42.	
51-28-5	2,4-Dinitrophenol	50.	U
100-02-7	4-Nitrophenol	16.	J
132-64-9	Dibenzofuran	10.	U
121-14-2	2,4-Dinitrotoluene	38.	
84-66-2	Diethylphthalate	10.	U
7005-72-3	4-Chlorophenyl-phenylether	10.	U
86-73-7	Fluorene	10.	U
100-01-6	4-Nitroaniline	50.	U
534-52-1	4,6-Dinitro-2-methylphenol	50.	U
86-30-6	N-Nitrosodiphenylamine (1)	10.	U
101-55-3	4-Bromophenyl-phenylether	10.	U
118-74-1	Hexachlorobenzene	10.	U
87-86-5	Pentachlorophenol	71.	
85-01-8	Phenanthrene	10.	U
120-12-7	Anthracene	10.	U
84-74-2	Di-n-butylphthalate	10.	U
206-44-0	Fluoranthene	10.	U
129-00-0	Pyrene	42.	
85-68-7	Butylbenzylphthalate	10.	U
91-94-1	3,3'-Dichlorobenzidine	20.	U
56-55-3	Benzo(a)anthracene	10.	U
218-01-9	Chrysene	10.	U
117-81-7	bis(2-Ethylhexyl)phthalate	10.	U
117-84-0	Di-n-Octyl_Phthalate	10.	U
205-99-2	Benzo(b)fluoranthene	10.	U
207-08-9	Benzo(k)fluoranthene	10.	U
50-32-8	Benzo(a)pyrene	10.	U
193-39-5	Indeno(1,2,3-cd)pyrene	10.	U
53-70-3	Dibenzo(a,h)anthracene	10.	U
191-24-2	Benzo(g,h,i)perylene	10.	U

(1) - Cannot be separated from Diphenylamine

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LCS B5016 2

Lab Name: ARDL, INC. Contract: ---

Lab Code: --- Case No.: --- SAS No.: --- SDG No.: ---

Matrix: (soil/water) WATER Lab Sample ID: 300185-01K2

Sample wt/vol: 1000.0 (g/mL) mL Lab File ID: >W5712

Level: (low/med) LOW Date Received: NA

% Moisture: not dec. --- dec. --- Date Extracted: 1/31/96

GPC Cleanup: (Y/N) N pH: --- Date Analyzed: 2/01/96

Final Extract Volume: 1000.0 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL) Conversion Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
108-95-2	Phenol	18.	
111-44-4	bis(2-Chloroethyl)ether	10.	U
95-57-8	2-Chlorophenol	46.	
541-73-1	1,3-Dichlorobenzene	10.	U
106-46-7	1,4-Dichlorobenzene	33.	
100-51-6	Benzyl alcohol	10.	U
95-50-1	1,2-Dichlorobenzene	10.	U
95-48-7	2-Methylphenol	10.	U
39638-32-9	bis(2-chloroisopropyl)ether	10.	U
106-44-5	4-Methylphenol	10.	U
621-64-7	N-Nitroso-Di-n-propylamine	30.	
67-72-1	Hexachloroethane	10.	U
98-95-3	Nitrobenzene	10.	U
78-59-1	Isophorone	10.	U
88-75-5	2-Nitrophenol	10.	U
105-67-9	2,4-Dimethylphenol	10.	U
65-85-0	Benzoic acid	50.	U
111-91-1	bis(2-Chloroethoxy)methane	10.	U
120-83-2	2,4-Dichlorophenol	10.	U
120-82-1	1,2,4-Trichlorobenzene	33.	
91-20-3	Naphthalene	10.	U
106-47-8	4-Chloroaniline	10.	U
87-68-3	Hexachlorobutadiene	10.	U
59-50-7	4-Chloro-3-methylphenol	50.	
91-57-6	2-Methylnaphthalene	10.	U
77-47-4	Hexachlorocyclopentadiene	10.	U
88-06-2	2,4,6-Trichlorophenol	10.	U
95-95-4	2,4,5-Trichlorophenol	50.	U
91-58-7	2-Chloronaphthalene	10.	U
88-74-4	2-Nitroaniline	50.	U
131-11-3	Dimethylphthalate	10.	U
208-96-8	Acenaphthylene	10.	U
606-20-2	2,6-Dinitrotoluene	10.	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LCS B5016 2

Lab Name: ARDL, INC. Contract: ---

Lab Code: --- Case No.: --- SAS No.: --- SDG No.: ---

Matrix: (soil/water) WATER Lab Sample ID: 300185-01K2

Sample wt/vol: 1000.0 (g/mL) mL Lab File ID: >W5712

Level: (low/med) LOW Date Received: NA

% Moisture: not dec. --- dec. --- Date Extracted: 1/31/96

GPC Cleanup: (Y/N) N pH: --- Date Analyzed: 2/01/96

Final Extract Volume: 1000.0 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL) Conversion Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
99-09-2	3-Nitroaniline	50.	U
83-32-9	Acenaphthene	39.	
51-28-5	2,4-Dinitrophenol	50.	U
100-02-7	4-Nitrophenol	15.	J
132-64-9	Dibenzofuran	10.	U
121-14-2	2,4-Dinitrotoluene	34.	
84-66-2	Diethylphthalate	10.	U
7005-72-3	4-Chlorophenyl-phenylether	10.	U
86-73-7	Fluorene	10.	U
100-01-6	4-Nitroaniline	50.	U
534-52-1	4,6-Dinitro-2-methylphenol	50.	U
86-30-6	N-Nitrosodiphenylamine (1)	10.	U
101-55-3	4-Bromophenyl-phenylether	10.	U
118-74-1	Hexachlorobenzene	10.	U
87-86-5	Pentachlorophenol	64.	
85-01-8	Phenanthrene	10.	U
120-12-7	Anthracene	10.	U
84-74-2	Di-n-butylphthalate	10.	U
206-44-0	Fluoranthene	10.	U
129-00-0	Pyrene	39.	
85-68-7	Butylbenzylphthalate	10.	U
91-94-1	3,3'-Dichlorobenzidine	20.	U
56-55-3	Benzo(a)anthracene	10.	U
218-01-9	Chrysene	10.	U
117-81-7	bis(2-Ethylhexyl)phthalate	10.	U
117-84-0	Di-n-Octyl_Phthalate	10.	U
205-99-2	Benzo(b)fluoranthene	10.	U
207-08-9	Benzo(k)fluoranthene	10.	U
50-32-8	Benzo(a)pyrene	10.	U
193-39-5	Indeno(1,2,3-cd)pyrene	10.	U
53-70-3	Dibenzo(a,h)anthracene	10.	U
191-24-2	Benzo(g,h,i)perylene	10.	U

(1) - Cannot be separated from Diphenylamine

1B

EPA SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

BLANK B5016

Lab Name: ARDL, INC. Contract: ---

Lab Code: --- Case No.: --- SAS No.: --- SDG No.: ---

Matrix: (soil/water) WATER Lab Sample ID: 300185-01B1

Sample wt/vol: 1000.0 (g/mL) mL Lab File ID: >W5710

Level: (low/med) LOW Date Received: NA

% Moisture: not dec. --- dec. --- Date Extracted: 1/31/96

GPC Cleanup: (Y/N) N pH: --- Date Analyzed: 2/01/96

Final Extract Volume: 1000.0 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL) Conversion Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
108-95-2	Phenol	10.	U
111-44-4	bis(2-Chloroethyl)ether	10.	U
95-57-8	2-Chlorophenol	10.	U
541-73-1	1,3-Dichlorobenzene	10.	U
106-46-7	1,4-Dichlorobenzene	10.	U
100-51-6	Benzyl alcohol	10.	U
95-50-1	1,2-Dichlorobenzene	10.	U
95-48-7	2-Methylphenol	10.	U
39638-32-9	bis(2-chloroisopropyl)ether	10.	U
106-44-5	4-Methylphenol	10.	U
621-64-7	N-Nitroso-Di-n-propylamine	10.	U
67-72-1	Hexachloroethane	10.	U
98-95-3	Nitrobenzene	10.	U
78-59-1	Isophorone	10.	U
88-75-5	2-Nitrophenol	10.	U
105-67-9	2,4-Dimethylphenol	10.	U
65-85-0	Benzoic acid	50.	U
111-91-1	bis(2-Chloroethoxy)methane	10.	U
120-83-2	2,4-Dichlorophenol	10.	U
120-82-1	1,2,4-Trichlorobenzene	10.	U
91-20-3	Naphthalene	10.	U
106-47-8	4-Chloroaniline	10.	U
87-68-3	Hexachlorobutadiene	10.	U
59-50-7	4-Chloro-3-methylphenol	10.	U
91-57-6	2-Methylnaphthalene	10.	U
77-47-4	Hexachlorocyclopentadiene	10.	U
88-06-2	2,4,6-Trichlorophenol	10.	U
95-95-4	2,4,5-Trichlorophenol	50.	U
91-58-7	2-Chloronaphthalene	10.	U
88-74-4	2-Nitroaniline	50.	U
131-11-3	Dimethylphthalate	10.	U
208-96-8	Acenaphthylene	10.	U
606-20-2	2,6-Dinitrotoluene	10.	U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

BLANK B5016

Lab Name: ARDL, INC. Contract: ---

Lab Code: --- Case No.: --- SAS No.: --- SDG No.: ---

Matrix: (soil/water) WATER Lab Sample ID: 300185-01B1

Sample wt/vol: 1000.0 (g/mL) mL Lab File ID: >W5710

Level: (low/med) LOW Date Received: NA

% Moisture: not dec. --- dec. --- Date Extracted: 1/31/96

GPC Cleanup: (Y/N) N pH: --- Date Analyzed: 2/01/96

Final Extract Volume: 1000.0 (uL) Dilution Factor: 1.0

Injection Volume: 1.0 (uL) Conversion Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L	Q
99-09-2	3-Nitroaniline	50.	U
83-32-9	Acenaphthene	10.	U
51-28-5	2,4-Dinitrophenol	50.	U
100-02-7	4-Nitrophenol	50.	U
132-64-9	Dibenzofuran	10.	U
121-14-2	2,4-Dinitrotoluene	10.	U
84-66-2	Diethylphthalate	10.	U
7005-72-3	4-Chlorophenyl-phenylether	10.	U
86-73-7	Fluorene	10.	U
100-01-6	4-Nitroaniline	50.	U
534-52-1	4,6-Dinitro-2-methylphenol	50.	U
86-30-6	N-Nitrosodiphenylamine (1)	10.	U
101-55-3	4-Bromophenyl-phenylether	10.	U
118-74-1	Hexachlorobenzene	10.	U
87-86-5	Pentachlorophenol	50.	U
85-01-8	Phenanthrene	10.	U
120-12-7	Anthracene	10.	U
84-74-2	Di-n-butylphthalate	10.	U
206-44-0	Fluoranthene	10.	U
129-00-0	Pyrene	10.	U
85-68-7	Butylbenzylphthalate	10.	U
91-94-1	3,3'-Dichlorobenzidine	20.	U
56-55-3	Benzo(a)anthracene	10.	U
218-01-9	Chrysene	10.	U
117-81-7	bis(2-Ethylhexyl)phthalate	10.	U
117-84-0	Di-n-Octyl_Phthalate	10.	U
205-99-2	Benzo(b)fluoranthene	10.	U
207-08-9	Benzo(k)fluoranthene	10.	U
50-32-8	Benzo(a)pyrene	10.	U
193-39-5	Indeno(1,2,3-cd)pyrene	10.	U
53-70-3	Dibenzo(a,h)anthracene	10.	U
191-24-2	Benzo(g,h,i)perylene	10.	U

(1) - Cannot be separated from Diphenylamine

1F

EPA SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

BLANK B5016

Lab Name: ARDL, INC. Contract: ---

Lab Code: --- Case No.: --- SAS No.: --- SDG No.: ---

Matrix: (soil/water) WATER Lab Sample ID: 300185-01B1

Sample wt/vol: 1000.0 (g/mL) mL Lab File ID: >W5710

Level: (low/med) LOW Date Received: NA

% Moisture: not dec. --- dec. --- Date Extracted: 1/31/96

Concentrated Extract Volume: 1000.0 (uL) Date Analyzed: 2/01/96

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: ---

Number TICs found: 1

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		Unknown	13.10	4.	J
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
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24.					
25.					
26.					
27.					
28.					
29.					
30.					

2C
WATER SEMIVOLATILE SURROGATE RECOVERY

Lab Name: ARDL, INC. Contract: RUST E & I

Lab code: --- Case No.: 300185 SAS No.: --- SDG No.: ---

	EPA SAMPLE NO.	S1 (NBZ)#	S2 (FBP)#	S3 (TPH)#	S4 (PHL)#	S5 (2FP)#	S6 (TBP)#	OTHER	TOT OUT
01	B-1	87	86	86	27	44	84		0
02	B-2	73	77	81	25	40	76		0
03	BLANK B5016	83	87	90	25	44	81		0
04	LCS B5016 1	89	91	88	29	48	82		0
05	LCS B5016 2	81	85	85	24	39	75		0
06									
07									
08									
09									
10									
11									
12									
13									
14									
15									
16									
17									
18									
19									
20									
21									
22									
23									
24									
25									
26									
27									
28									
29									
30									

	QC LIMITS
S1 (NBZ) = Nitrobenzene-d5	(35-114)
S2 (FBP) = 2-Fluorobiphenyl	(43-116)
S3 (TPH) = Terphenyl-d14	(33-141)
S4 (PHL) = Phenol-d5	(10- 94)
S5 (2FP) = 2-Fluorophenol	(21-100)
S6 (TBP) = 2,4,6-Tribromophenol	(10-123)

Column to be used to flag recovery values
* Values outside of contract required QC limits
D Surrogates diluted out

INORGANIC ANALYSIS DATA PACKAGE

RUST Environmental and Infrastructure

Date: 02/06/96
ARDL Report No.: 300185

Lab Name: ARDL, Inc.
Samples Received at ARDL: 01/26/96
Project Name: Rust E & I

CASE NARRATIVE

Sample ID No.	Date Collected	Lab ID No.	Analysis Requested
B-1	01/25/96	300185-1	Total Metals(1)
B-2	01/25/96	300185-2	Total Metals(1)

(1) *Including arsenic, barium, cadmium, chromium, lead, mercury, selenium and silver.*

NOTE: The samples contained considerable amounts of silt/sand, approximately 15% to 40%. Following verbal instructions from the customer, the water was decanted and analyzed. Duplicate spike blanks were prepared and analyzed in lieu of MS/MSD due to the limited amount of sample.

The quality control data are summarized as follows:

LABORATORY CONTROL SAMPLES
Percent recovery of all LCS analyses were within control limits.

SPIKE BLANKS
Percent recovery of all spike blank and duplicate spike blank analyses were within control limits.

DUPLICATES
RPD on all duplicate analyses were within control limits.
All duplicate analyses are reported as MS/MSD.

Release of the data contained in this package has been authorized by the Technical Services Manager or his designee as verified by the following signature.

Daniel J. Gillespie
Technical Services Manager

ARDL, INC.

Rt. 15E, Mt. Vernon Airport Industrial Park

Mt. Vernon, Illinois 62864

Report Date: 06 Feb 96

Project Name:	Rust E & I	Analysis:	Inorganics
Project No.:	39379.100	Matrix:	Groundwater Units: mg/L
QC Identifier:		QC Batch Nos.:	2318P (Method 3010)
Customer Sample No.:	B-1		
ARDL No.:	300185-1		1552CV (Method 7470)

Analyte	Detection Limits	Results	Prep Method	Analysis Method	Prep Date	Analysis Date
Arsenic (ICP)	0.025	0.055	3010	6010	02 Feb 96	02 Feb 96
Barium	0.010	1.2	3010	6010	02 Feb 96	02 Feb 96
Cadmium	0.0050	0.0050	3010	6010	02 Feb 96	02 Feb 96
Chromium	0.0050	0.34	3010	6010	02 Feb 96	02 Feb 96
Lead (ICP)	0.025	0.18	3010	6010	02 Feb 96	02 Feb 96
Mercury	0.00020	< 0.00020	7470	7470	02 Feb 96	02 Feb 96
Selenium (ICP)	0.040	< 0.040	3010	6010	02 Feb 96	05 Feb 96
Silver	0.0050	< 0.0050	3010	6010	02 Feb 96	05 Feb 96

ARDL, INC.

Rt. 15E, Mt. Vernon Airport Industrial Park

Mt. Vernon, Illinois 62864

Report Date: 06 Feb 96

Project Name:	Rust E & I	**Analysis:**	Inorganics
Project No.:	39379.100	**Matrix:**	Groundwater **Units:** mg/L
QC Identifier:		**QC Batch Nos.:**	2318P (Method 3010)
Customer Sample No.:	B-2		
ARDL No.:	300185-2		1552CV (Method 7470)

Analyte	Detection Limits	Results	Prep Method	Analysis Method	Prep Date	Analysis Date
Arsenic (ICP)	0.025	0.076	3010	6010	02 Feb 96	02 Feb 96
Barium	0.010	2.2	3010	6010	02 Feb 96	02 Feb 96
Cadmium	0.0050	0.0078	3010	6010	02 Feb 96	02 Feb 96
Chromium	0.0050	0.97	3010	6010	02 Feb 96	02 Feb 96
Lead (ICP)	0.025	0.13 J	3010	6010	02 Feb 96	02 Feb 96
Mercury	0.00020	< 0.00020	7470	7470	02 Feb 96	02 Feb 96
Selenium (ICP)	0.040	< 0.040	3010	6010	02 Feb 96	05 Feb 96
Silver	0.0050	< 0.0050	3010	6010	02 Feb 96	05 Feb 96

QC RESULTS
MATRIX SPIKE SUMMARY

Project Name: Rust E & I
Project No.: 39379.100
ARDL ID: SPBLK-1
Units: mg/L

Analysis: Inorganics
Matrix: Groundwater
Field ID: --
Reporting Date: 06 Feb 96

Analyte	MRL	Spike Level		Sample Result	Spiked Sample Result	Percent Recovery	Percent Recovery Acceptance Criteria
Arsenic (ICP)	0.025	2.0	<	0.025	2.0	100	75-125
Barium	0.010	2.0	<	0.010	1.9	95	75-125
Cadmium	0.0050	0.050	<	0.0050	0.046	92	75-125
Chromium	0.0050	0.20	<	0.0050	0.19	95	75-125
Lead (ICP)	0.025	0.50	<	0.025	0.48	96	75-125
Mercury	0.00020	0.0010	<	0.00020	0.0010	100	75-125
Selenium (ICP)	0.040	2.0	<	0.040	2.0	100	75-125
Silver	0.0050	0.050	<	0.0050	0.051	102	75-125

NOTE: The preparation blank was used as the sample result for calculation purposes.

QC RESULTS
MATRIX SPIKE DUPLICATE SUMMARY

Project Name: Rust E & I
Project No.: 39379.100
ARDL ID: SPBLK-2
Units: mg/L

Analysis: Inorganics
Matrix: Groundwater
Field ID: --
Reporting Date: 06 Feb 96

Analyte	MRL	Spike Level	Sample Result	Spiked Sample Result	Percent Recovery	Percent Recovery Acceptance Criteria
Arsenic (ICP)	0.025	2.0	< 0.025	2.0	100	75-125
Barium	0.010	2.0	< 0.010	1.9	95	75-125
Cadmium	0.0050	0.050	< 0.0050	0.050	100	75-125
Chromium	0.0050	0.20	< 0.0050	0.20	100	75-125
Lead (ICP)	0.025	0.50	< 0.025	0.49	98	75-125
Mercury	0.00020	0.0010	< 0.00020	0.0010	100	75-125
Selenium (ICP)	0.040	2.0	< 0.040	2.0	100	75-125
Silver	0.0050	0.050	< 0.0050	0.052	104	75-125

NOTE: The preparation blank was used as the sample result for calculation purposes.

QA/QC REPORT
DUPLICATE SUMMARY

Project Name: Rust E & I
Project No.: 39379.100
ARDL ID: SPBLK-1/2
Units: mg/L

Analysis: Inorganics
Matrix: Groundwater
Field ID: --
Reporting Date: 06 Feb 96

Analyte	EPA Method	MRL	Sample Result	Duplicate Sample Result	Average	Relative Percent Difference	RPD Acceptance Criteria
Arsenic (ICP)	6010	0.025	2.0	2.0	2.0	0.0	20%
Barium	6010	0.010	1.9	1.9	1.9	0.0	20%
Cadmium	6010	0.0050	0.046	0.050	0.048	8.3	20%
Chromium	6010	0.0050	0.19	0.20	0.20	5.1	20%
Lead (ICP)	6010	0.025	0.48	0.49	0.49	2.1	20%
Mercury	7470	0.00020	0.0010	0.0010	0.0010	0.0	20%
Selenium (ICP)	6010	0.040	2.0	2.0	2.0	0.0	20%
Silver	6010	0.0050	0.051	0.052	0.052	1.9	20%

ARDL, INC.

Rt. 15E, Mt. Vernon Airport Industrial Park

Mt. Vernon, Illinois 62864

Report Date: 06 Feb 96

Project Name:	Rust E & I	**Analysis:**	Inorganics
Project No.:	39379.100	**Matrix:**	Groundwater **Units:** mg/L
QC Identifier:	Method Blank	**QC Batch Nos.:**	2318P - Method 3010
Customer Sample No.:			
ARDL No.:	Method Blank		1552CV - Method 7470

Analyte	Detection Limits	Results	Prep Method	Analysis Method	Prep Date	Analysis Date
Arsenic (ICP)	0.025	< 0.025	3010	6010	02 Feb 96	02 Feb 96
Barium	0.010	< 0.010	3010	6010	02 Feb 96	02 Feb 96
Cadmium	0.0050	< 0.0050	3010	6010	02 Feb 96	02 Feb 96
Chromium	0.0050	< 0.0050	3010	6010	02 Feb 96	02 Feb 96
Lead (ICP)	0.025	< 0.025	3010	6010	02 Feb 96	02 Feb 96
Mercury	0.00020	< 0.00020	7470	7470	02 Feb 96	02 Feb 96
Selenium (ICP)	0.040	< 0.040	3010	6010	02 Feb 96	05 Feb 96
Silver	0.0050	< 0.0050	3010	6010	02 Feb 96	05 Feb 96

QC RESULTS
LABORATORY CONTROL SAMPLE

Project Name: Rust E & I
Project No.: 39379.100
Laboratory ID: LCS
Units: mg/L

Analysis: Inorganics
Matrix: Groundwater
Field ID: N/A
Reporting Date: 06 Feb 96

Parameter	Control Limit	True	Found	% Recovery
Arsenic (ICP)	80-120	2.0	2.0	100
Barium	80-120	20.0	18.7	94
Cadmium	80-120	1.0	0.97	97
Chromium	80-120	1.0	0.91	91
Lead (ICP)	80-120	1.0	0.96	96
Mercury	80-120	0.0050	0.0051	102
Selenium (ICP)	80-120	1.0	0.95	95
Silver	80-120	1.0	0.96	96

Question 24

State of Illinois
ENVIRONMENTAL PROTECTION AGENCY

Mary A. Gade, Director

2200 Churchill Road, Springfield, IL 62794-9276

February 24, 1992

Mr. Roy Lussow
Sterling Steel Foundry
2300 Falling Springs Road
Sauget, IL 62206
Re: Site Inspection

Dear Mr. Lussow,

This correspondence is to inform you that the Illinois Environmental Protection Agency's Division of Land Pollution Control intends to conduct a CERCLA Screening Site Inspection of the Sterling Steel Foundry located at 2300 Falling Springs Road, Sauget, Illinois during the week of March 15, 1993.

This activity will be undertaken by IEPA personnel authorized to conduct such investigations under the statutory authority of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) of 1980.

During the scheduled inspection, the field team intends to analyze the impact of the facility on the surrounding community by collecting a series of soil samples and surface water samples. You will be given the opportunity to receive split samples if you desire. If you choose not to incur the costs of split samples, the formal results of this investigation will be documented in a Screening Site Inspection report. A copy of which will be made available to you.

I will be contacting you in the near future to discuss program objectives, and to establish specific dates for the on-site investigation.

In the meantime, should you have any questions regarding this matter, please contact me at (217) 782-6760.

Sincerely,

Lynnette A. Koutnik

Lynnette A. Koutnik
Project Manager
Remedial Project Management Section
Division of Land Pollution Control

Printed on Recycled Paper

Question 25

Certificate Number 10676

STATE OF ILLINOIS

OFFICE OF THE SECRETARY OF STATE

To all to whom these Presents Shall Come, Greeting:

Whereas, a STATEMENT OF INCORPORATION, duly signed, acknowledged and verified under oath, has been filed in the Office of the Secretary of State, on the 10th day of July A.D. 1922, for the organization of the STERLING ELECTRIC STEEL CASTING CO.

under and in accordance with the provisions of "AN ACT IN RELATION TO CORPORATIONS FOR PECUNIARY PROFIT" approved June 28, 1919, and in force July 1, 1919, and all acts amendatory thereof, a copy of which statement is hereto attached;

Now Therefore, I, LOUIS L. EMMERSON, Secretary of State of the State of Illinois, by virtue of the powers and duties vested in me by law, do hereby certify that the said

STERLING ELECTRIC STEEL CASTING CO.

is a legally organized Corporation under the laws of this State.

In Testimony Whereof, I hereto set my hand and cause to be affixed the Great Seal of the State of Illinois. Done at the City of Springfield this 10th day of July A.D. 1922 and of the Independence of the United States the one hundred and 47th.

SEAL

LOUIS L EMMERSON

SECRETARY OF STATE.

(68070—10M—4-22)

(THIS STATEMENT MUST BE FILED IN DUPLICATE)

PAID
JUL 10 1922
$32.50 W.&L.
32.50 F.T.

STATE OF ILLINOIS,
St. Clair County, } ss.

To LOUIS L. EMMERSON, Secretary of State:

We, the undersigned, adult citizens of the United States, at least one of whom is a citizen of Illinois,

NAME	ADDRESS NUMBER STREET CITY STATE
Raymond O. Shive,	8012 West Main Street, Belleville, Ill.
Claude L. Harrell,	4057a Lafayette Ave., St. Louis, Mo.
George E. Baker.	812 South Church St., Belleville, Ill

propose to form a corporation under an Act of the General Assembly of the State of Illinois, entitled, "An Act in relation to corporations for pecuniary profit," approved June 28, 1919, in force July 1, 1919; and, for the purpose of such organization, we hereby state as follows, to-wit:

1. The name of such corporation is Sterling Electric Steel Casting Co.

2. The purpose or purposes for which it is formed is to manufacture, purchase and sell steel and other metal castings and forgings; the purchase and sale of iron and steel and the products thereof; to conduct a general foundry and forge business, and to manufacture and sell ore and coal mining cars.

3. The duration of the corporation is ninety-nine years years.

4. The location of the principal office is Falling Springs Ave., Centerville ~~xxxxxx~~ Street, Station Township, County of St. Clair, State of Illinois.

5. The total authorized capital stock is { Preferred $---------- / Common $ 65000.00 } and ---------- shares of { Preferred / Common } without par value.

6. The amount of each share having a par value is $100.00

7. The number of shares having a par value is 650

8. The number of shares of no par value is None

9. The name and address of the subscribers to the capital stock, and the amount subscribed and paid in by each, are as follows:

NAME	ADDRESS NUMBER STREET CITY STATE	NUMBER OF SHARES	AMOUNT SUBSCRIBED	AMOUNT PAID IN
Raymond O. Shive,	8012 West Main Street, Belleville, Illinois.	187	$18700	$14960.00
E. D. Campbell,	4001a Lafayette Ave., St. Louis, Missouri,	52	5200	4160.00
Roy Ash	4258 Shaw Ave., St. Louis, Missouri.	30	3000	2400.00
Samuel R. Galway	3677a Folsom Ave., St. Louis, Missouri	15	1500	1200.00
W. A. Dew	115 East Main Street, Belleville, Illinois.	15	1500	1200.00
Julius F. Seib	207 East "D" St., Belleville, Illinois.	5	500	400.00
Ben Merck	106 Douglas Ave., Belleville, Illinois.	5	500	400.00
George E. Baker	812 South Church St. Belleville, Illinois.	20	2000	1600.00
R. F. Bixby	4931 Lindell Boulevard, St. Louis, Missouri.	50	5000	4000.00
Claude L. Harrell	4057a Lafayette Ave., St. Louis, Missouri.	70	7000	5600.00
F. A. Hunter	East St. Louis, Illinois	25	2500	2000.00
H. A. Neher	4303 DeTonty St., St. Louis, Missouri	10	1000	800.00
A. G. Bancroft	900 Great Northern Bldg., Chicago, Illinois	20	2000	1600.00
R. A. Gray	308 Columbia Bldg., St. Louis, Missouri.	10	1000	800.00
Edmund Gedde	2040 Illinois Avenue, East St. Louis, Illinois.	5	500	400.00
P. J. Ward	2029 East Broadway, East St. Louis, Illinois.	20	2000	1600.00
J. J. O'Fallon, Jr.	796 Arcade Bldg., St. Louis, Missouri	10	1000	800.00
T. F. Philippi	31st St. and Ridge Ave., East St. Louis, Illinois.	5	500	400.00
William Kloess	2309 West Main Street, Belleville, Illinois.	5	500	400.00
L. C. Farquhar	2029 East Broadway, East St. Louis, Illinois	5	500	400.00
Ross Bowles	409 Murphy Bldg., East St. Louis, Ill.	10	1000	800.00
M. T. McCormick	812 Chemical Bldg., St. Louis, Missouri.	5	500	400.00
10.* T. D. Watkins	National Stock Yards, East St. Louis, Illinois.	10	1000	800.00

11. Amount of capital stock which it is proposed to issue at once:

(a) On shares having no par value None — Preferred $ None; Common $ None

(b) On shares having a par value of $ 100.00 — Preferred $ None; Common $ 58,900.00

12. Amount of capital stock actually paid in:

(a) On shares having no par value None — Preferred $ None; Common $ None

(b) On shares having a par value of $ 100.00 — Preferred $ None; Common $ 47,120.00

13. Amount of capital stock paid in cash is $ 47,120.00

14. Capital stock paid in property, appraised as follows: $ None

15. The location and a general description of such property is as follows:

16. The management of the corporation shall be vested in five directors.

17. The names and addresses of the first board of directors, at least one of whom is a resident of Illinois, and the respective term for which elected are as follows:

NAME	ADDRESS NUMBER STREET CITY STATE	TERM FOR WHICH ELECTED
Raymond O. Shive	8012 West Main Street, Belleville, Illinois	One year
Claude L. Harrell	4057a Lafayette Ave., St. Louis, Missouri.	One year
George E. Baker	812 South Church St., Belleville, Illinois	One year
[illegible]	3677a Folsom Ave., St. Louis, Missouri.	One year
F. A. Hunter	East St. Louis, Illinois.	One year.

18. Subject to the conditions and limitations prescribed by "The General Corporation Act" of Illinois, this corporation shall have the following powers, rights and privileges:

To have succession by its corporate name for the period limited in its certificate of incorporation, or any amendment thereof;

To sue or be sued in its corporate name;

To have and use a common seal and alter the same at pleasure;

To have a capital stock of such an amount, and divided into shares with a par value, or without a par value, and to divide such capital stock into such classes, with such preferences, rights, values and interests as may be provided in the article of incorporation, or any amendment thereof;

To acquire, and to own, possess and enjoy so much real and personal property as may be necessary for the transaction of the business of such corporation, and to lease, mortgage, pledge, sell, convey or transfer the same; and to acquire and to own real property, improved or unimproved, for the purpose of providing homes for its employes or aiding its employes to acquire and own homes and to improve, lease, mortgage, contract to sell, convey or transfer the same, and to loan money to its employes for such purpose upon such terms as may be agreed upon.

To own, purchase or otherwise acquire, whether in exchange for the issuance of its own stock, bonds, or other obligations or otherwise, and to hold, vote, pledge, or dispose of the stocks, bonds, and other evidences of indebtedness of any corporation, domestic or foreign;

To borrow money at such rate of interest as the corporation may determine without regard to or restrictions under any usury law of this State and to mortgage or pledge its property, both real and personal, to secure the payment thereof;

To elect officers, appoint agents, define their duties and fix their compensation;

To lease, exchange or sell all of the corporate assets with the consent of two-thirds of all of the outstanding capital stock of the corporation at any annual meeting or at any special meeting called for that purpose;

To make by-laws not inconsistent with the laws of this State for the administration of the business and interests of such corporation;

To conduct business in this State, or other states, the District of Columbia, the territories, possessions, and dependencies of the United States and in foreign countries and to have one or more offices out of this State, and to hold, purchase, mortgage, and convey real and personal property outside of this State necessary and requisite to carry out the object of the corporation;

In time of war to transact any lawful business in aid of the United States in the prosecution of war, to make donations to associations and organizations aiding in war activities and to loan money to the State or Federal government for war purposes;

To cease doing business and to surrender its charter;

To have and to exercise all the powers necessary and convenient to carry into effect the purpose for which such corporation is formed.

19. An estimate of the per cent. of tangible property of the corporation to be used in Illinois for the following year is 100%

20. An estimate of the per cent. of the business of the corporation which will be transacted at or from places of business in Illinois for the following year is

21. Give the location of the principal places of business of the corporation for the following year and an estimate of the amount of business which will be transacted through each.

The location of the principal place of business for the following year is Falling Springs Ave., Centerville Station Township, St. Clair County, Illinois, from which all business will be transacted.

Raymond O. Shive
Claude L. Harrell
George E. Baker

} Incorporators.

OATH AND ACKNOWLEDGMENT

STATE OF ILLINOIS, }
St. Clair County, } ss.

I, August Barthel a Notary Public in and for the County and State aforesaid, do hereby certify that on the 8th day of July A. D. 1922, personally appeared before me Raymond O. Shive, Claude L. Harrell, George E. Baker,

to me personally known to be the same persons who executed the foregoing and severally acknowledged that they executed the same for the purposes therein set forth, and being duly sworn hereby declared on oath that the foregoing statements made, subscribed and verified by them are true in substance and in fact.

In Witness Whereof, I have hereunto set my hand and seal the day and year above written.

August Barthel
Notary Public.

(Seal)

CORPORATION FOR PECUNIARY PROFIT.

Fees payable in advance.

Statement of Incorporation of

Sterling Electric Steel Casting Co.

FILED

INCORPORATION FEES,

Initial fee of 1/20 of one per cent. on the authorized capital stock, with a minimum fee of $20.00, also franchise fee as required by Section 129 of the General Corporation Act.

*NOTE.—In paragraph 10 you should set out a brief description of the rights and preferences of the holders of preferred stock, or any other provision for the regulation of the business and the conduct of the affairs of the corporation. In case of a building corporation you will also give in the same space a specific and definite description of the site of such building. In order to avoid delay read carefully each paragraph in the statement before interpolating the data required. Before execution of the statement compare every recital in the document and see whether or not it balances with every other recital relating to the same matter.

Question-25

Certificate Number 14883

STATE OF ILLINOIS

OFFICE OF THE SECRETARY OF STATE

To All to Whom These Presents Shall Come, Greeting:

Whereas, from a certificate duly signed and verified under oath filed in the Office of the Secretary of State, on the 14th day of April A.D. 19 23 it appears that at a meeting of the stockholders, of the STERLING ELECTRIC STEEL CASTING CO. duly convened a resolution was passed to increase capital stock and change name in accordance with the provisions of an Act entitled "AN ACT IN RELATION TO CORPORATIONS FOR PECUNIARY PROFIT" approved June 28, 1919, in force July 1, 1919, and all acts amendatory thereof, a copy of which certificate is hereto attached;

Now Therefore, I, LOUIS L. EMMERSON, Secretary of State of the State of Illinois, by virtue of the powers vested in me by law, do hereby certify that STERLING ELECTRIC STEEL CASTING CO. has legally increased capital stock from $65,000.00 to $100,000.00; changed name to STERLING STEEL CO.

as provided in the aforesaid Act.

In Testimony Whereof, I hereto set my hand and cause to be affixed the Great Seal of the State of Illinois, Done at the City of Springfield this 14th day of April A.D. 19 23 and of the Independence of the United States the one hundred and 47th.

LOUIS L. EMMERSON

SECRETARY OF STATE.

(374 M-7-20)

NOTICE: This certificate is to be used for increasing the capital stock. Other changes in the Articles of Incorporation included in resolution increasing the capital stock may also be included in this certificate.

PAID

APR 14 1923

$ 37.50
23.34

F. T. 5

FORM E.

THIS CERTIFICATE MUST BE FILED IN DUPLICATE

STATE OF ILLINOIS, }
County of St. Clair } ss.

I hereby certify that at a special meeting of the stockholders of the Sterling Electric Steel Casting Co., held at Falling Springs Ave., Centerville Sta., Twp., St. Clair County, Illinois on the seventh day of April A. D. 1923., at 10 o'clock A. M., pursuant to notice required by law, which said notice was delivered personally (or deposited in the post office, properly posted) at least ten days before the time fixed for such meeting, properly addressed to each Stockholder; signed in the manner provided in the by-laws of said Corporation, stating the time, place and object of such meeting.

The following resolution was adopted, at least two-thirds of all the votes represented by the whole stock of said Corporation issued and outstanding voting therefor:

RESOLVED, That the capital stock is hereby increased from $65,000.00 consisting of 650 shares of the par value of $100.00 to $100,000.00 consisting of 1000 shares of the par value of $100.00 each.

1660

017

1. The total amount of the capital stock already authorized is $65,000.00

2. The amount of the authorized capital stock issued and outstanding is $65,000.00

01

3. The amount of the capital stock issued and outstanding paid in cash, in accordance with the statements filed in the office of the Secretary of State is as follows:

650 shares having a par value of $100.00 per share is { common $65,000.00 / preferred $ none }

no shares having no par value is { common $ none / preferred $ none }

4. The amount of the capital stock issued and outstanding paid in property, in accordance with the statements filed in the office of the Secretary of State is as follows:

no shares having a par value of $ ----- per share is { common $ none / preferred $ none }

no shares having no par value is { common $ none / preferred $ none }

5. The amount of capital stock issued and outstanding paid in cash, not previously reported to the Secretary of State is as follows:

no shares having a par value of $ -- per share is { common $ none / preferred $ none }

no shares having no par value is { common $ none / preferred $ none }

6. The amount of capital stock issued and outstanding paid in property, not previously reported to the Secretary of State is as follows:

no shares having a par value of $ --- per share is { common $ none / preferred $ none }

no shares having no par value is { common $ none / preferred $ none }

7. The amount of increased capital stock which is proposed to issue at once is as follows:

250 shares having a par value of $100.00 per share is { common $ 25,000.00 / preferred $ none }

no shares having no par value is { common $ none / preferred $ none }

8. The amount of the increased capital stock which is proposed to issue at once and which will be paid in cash is as follows:

250 shares having a par value of $100.00 per share is { common $ 25,000.00 / preferred $ none }

..... shares having no par value is { common $ ..... / preferred $ ..... }

9. The amount of the increased capital stock which is proposed to issue at once for property, and appraised value thereof are as follows:

.....no.....shares having a par value of $.....-----.....per share is {common $.....none..... / preferred $.....none.....

.....no.....shares having no par value is {common $.....none..... / preferred $.....none.....

10. The location and a general description of such property are as follows:.....none.....

.....

.....

.....

.....

It is hereby further certified that the requirements respecting all stock previously issued by the corporation have been complied with in accordance with the statute in such cases made and provided.

I do hereby further certify that at said special meeting of the stockholders so held at Falling Springs Avenue, Centerville Station Township, St. Clair County, Illinois on the seventh day of April, A.D. 1923, at 10:00 o'clock A.M., pursuant to notice required by law, which said notice was delivered personally (or deposited in the post office properly posted) at least ten days before the time fixed for such meeting, properly addressed to each stockholder, signed in the manner provided in the by-laws of said Corporation, stating the time, place and object of such meeting.

The following resolution was also, adopted, at least two-thirds of all the votes represented by the whole stock of said Corporation issued and outstanding voting therefor:

"RESOLVED, That the name of this Corporation be changed from Sterling Electric Steel Casting Co., to Sterling Steel Co."

Raymond D. Shive, President

Affix Corporate Seal Here.

Claude L. Harrell Secretary

State of Illinois,) ss.
County of St. Clair.)

I, Raymond D. Shive, being duly sworn, declare on oath that I am President of the Corporation mentioned in the foregoing certificate, and that the statements therein made are true in substance and in fact.

IN WITNESS WHEREOF, I have hereunto set my hand, and caused the seal of said Corporation to be affixed, this 13th day of April A.D. 1923.

Raymond D. Shive
President.

Subscribed and sworn to before me this 13 day of April A.D. 1923.

C. C. Pope.
Notary Public.

FORM E.

Box 1660 No. 113017

CERTIFICATE

Increase in stock and change name $65,000 to $100,000,

OF

The STERLING ELECTRIC STEEL CASTING CO. to STERLING STEEL CO.

The fee for increase in capital stock is 50c per thousand or fractional part of such increase and $20 for filing the certificate.

NOTICE: Where the notice prescribed by statute for the convening of a meeting of the stockholders to vote on any change is waived, the certificate should be changed to show this fact, and that portion of the certificate relating to the giving of such notice stricken out and a copy of the waiver of notice attached so that the certificate will then be in the following form:

STATE OF ILLINOIS, }
County of..... } ss.

I hereby certify that at a special meeting of the stockholders of the.....held at.....on the.....day of.....A. D. 192.....at.....o'clock.....M., pursuant to the waiver of notice required by law, a copy of which waiver of notice is as follows, to-wit:

We, the undersigned, being all the stockholders of .....do hereby waive all notice required by statute for the purposes of convening a meeting of stockholders to vote on the proposition of.....and do hereby consent that said meeting shall be held at.....on the.....day of.....A. D. 192.....

[Signed]

.....

.....

.....

Dated.....day of.....A. D. 192.....

150

STATE OF ILLINOIS, }
County of..... } ss.

I.....
.....
dent of the Corporation mentioned in the foregoing certificate, and that the statements therein made are true in substance and in fact.

IN WITNESS WHEREOF, I have hereunto set my hand, and caused the seal of said Corporation to be affixed, this.....day of.....A. D. 192.....

.....
President.

Subscribed and sworn to before me this.....day of.....A. D. 192.....

.....
Notary Public.

FILED
APR 14 1923
SEC'Y. OF STATE.

Question 25

Certificate Number 28258

STATE OF ILLINOIS

OFFICE OF THE SECRETARY OF STATE

To all to whom these Presents Shall Come, Greeting:

Whereas, from a certificate duly signed and verified under oath filed in the Office of the Secretary of State, on the 18th day of August A.D. 19 28 it appears that at a meeting of the stockholders of the STERLING STEEL CO. duly convened a resolution was passed to change name in accordance with the provisions of an Act entitled "AN ACT IN RELATION TO CORPORATIONS FOR PECUNIARY PROFIT" approved June 28 1919, in force July 1, 1919, and all acts amendatory thereof, a copy of which certificate is hereto attached;

Now Therefore, I, LOUIS L. EMMERSON, Secretary of State of the State of Illinois, by virtue of the powers vested in me by law, do hereby certify that STERLING STEEL CO. has legally changed name to STERLING STEEL CASTING CO. as provided in the aforesaid Act.

In Testimony Whereof, I hereto set my hand, and cause to be affixed the Great Seal of the State of Illinois, Done at the City of Springfield this 18th day of August A.D. 19 28 and of the Independence of the United States the one hundred and 53rd.

SEAL.

LOUIS L. EMMERSON
SECRETARY OF STATE.

4.14 AUG 18 '28

NOTICE:—Before attempting to execute this certificate please read instructions on the back thereof.

FORM "I."

THIS CERTIFICATE MUST BE FILED IN DUPLICATE

PAID
AUG 1 1928
20.00

STATE OF ILLINOIS,
County of St. Clair } ss.

I hereby certify that at a special meeting of the Stockholders of the Sterling Steel Co. held at the home office of the Co., Falling Springs Ave. & the A. & S. Trks., Centerville Sta. Twp., St. Clair Co., Ill. on 11th day of August, A. D. 19 28, at 1:00 o'clock P. M., pursuant to notice required by law, which said notice was delivered personally or deposited in the postoffice properly posted) at least ten days before the time fixed for such meeting, properly addressed to each Stockholder, signed in the manner provided in the by-laws of said Corporation, stating the time, place and object of such meeting.

The following resolution was adopted, at least two-thirds of all the votes represented by the whole stock of said Corporation issued and outstanding voting therefor:

1660
017

"Resolved, That the Articles of Incorporation of the Sterling Steel Co. be amended by changing the name of the Corporation from Sterling Steel Co. to Sterling Steel Casting Co."

Affix Corporate Seal Here.

Attest: C. H. Farrell
Secretary.

(77850-10M-10-27)

STATE OF ILLINOIS,
County of DeKalb } ss.

I, R O Thwaite being duly sworn, declare on oath that I am President of the Corporation mentioned in the foregoing certificate, and that the statements therein made are true in substance and in fact.

IN WITNESS WHEREOF, I have hereunto set my hand, and caused the seal of said Corporation to be affixed, this 17th day of Aug A. D. 1928

R O Thwaite
President.

Subscribed and sworn to before me this 17th day of Aug
A. D. 1928

A W Lang
Notary Public.

FORM "I."

Box 1660 No. 113017

CERTIFICATE

of

Changed name from STERLING STEEL CO. to

of

The STERLING STEEL CASTING CO.

NOTICE: This certificate may be used in making all amendments to the Articles of Incorporation other than dissolution and consolidation of corporations. In case of decrease in capital stock you should insert in the certificate a clause substantially as follows:

RESOLVED, That the capital stock is hereby DECREASED from $.....consisting of.....shares of the par value of $.....and.....shares of stock of no par value to $.....consisting of.....shares of the par value of $.....and.....shares of no par value.

The amount of the capital stock issued and outstanding is.....and the manner by which the decrease is effected is as follows, to-wit:.....

If the capital stock is increased, the resolution should be substantially in the following form:

RESOLVED, That the capital stock is hereby INCREASED from $.....consisting of.....shares of the par value of $.....and.....shares of stock of no par value to $.....consisting of.....shares of the par value of $.....and.....shares of no par value.

The total amount of capital stock already authorized is $.....

The amount of the increased capital stock which is proposed to issue at once and which will be paid in cash is as follows:

.....shares having a par value of $.....

per share is { common $.....
preferred $.....

.....shares having no par value is { common $.....
preferred $.....

The amount of the increased capital stock which is proposed to issue at once for property and appraised value thereof are as follows:

.....shares having a par value of $.....

per share is { common $.....
preferred $.....

.....shares having no par value is { common $.....
preferred $.....

The location and a general description of such property are as follows:

.....

.....

.....

The fees required are covered by Sections 96, 97, 103 and 120 of the General Corporation Act.

Blanks for filing amendments where the notice prescribed by statute is waived will be furnished upon request.

FILED
AUG 18 1928
Louis L. Emmerson
SEC'Y. OF STATE.

1 00

Question 25

Certificate Number 3502

STATE OF ILLINOIS

OFFICE OF THE SECRETARY OF STATE

To all to whom these Presents Shall Come, Greeting:

Whereas, *Articles of amendment to the Articles of Incorporation duly signed and verified of*

STERLING STEEL CASTING CO.

have been filed in the Office of the Secretary of State on the 3rd *day of* July *A. D. 19* 47, *as provided by "THE BUSINESS CORPORATION ACT" of Illinois, in force July 13, A. D. 1933.*

Now Therefore, I, EDWARD J. BARRETT, *Secretary of State of the State of Illinois, by virtue of the powers vested in me by law, do hereby issue this certificate of amendment and attach thereto a copy of the Articles of Amendment to the Articles of Incorporation of the aforesaid corporation.*

In Testimony Whereof, *I hereto set my hand and cause to be affixed the Great Seal of the State of Illinois.*

Done at the City of Springfield this 3rd *day of* July *A.D. 19* 47 *and of the Independence of the United States the one hundred and* 71st.

(SEAL)

Edward J. Barrett

SECRETARY OF STATE.

Form BCA-55

DATE 7-3-47
FILING FEE $ 20.00
CLERK [illegible]

(File in Duplicate)

ARTICLES OF AMENDMENT

TO THE

ARTICLES OF INCORPORATION

OF

STERLING STEEL CASTING CO.
(Exact Corporate Name)

PAID
JUL 3 1947
Edward J. Barrett
Secretary of State

To EDWARD J. BARRETT
Secretary of State
Springfield, Illinois

The undersigned corporation, for the purpose of amending its Articles of Incorporation and pursuant to the provisions of Section 55 of "The Business Corporation Act" of the State of Illinois, hereby executes the following Articles of Amendment:

ARTICLE FIRST: The name of the corporation is:

Sterling Steel Casting Co.

ARTICLE SECOND: The following amendment or amendments were adopted in the manner prescribed by "The Business Corporation Act" of the State of Illinois: RESOLVED: That the aggregate number of shares which the corporation is authorized to issue is four thousand of one class only. The designation of such class, the number of shares of such class, (and the par value, if any, of the shares of such class, or a statement that the shares of such class are without par value,) is as follows:

Class	Series (if any)	No. of Shares	Par Value per Share or Statement that Shares are Without Par Value
Common	None	4,000	$ 50.00

FURTHER RESOLVED THAT: Each of the original $100.00 par value shares of common stock issued and outstanding, being 1,000 in number, will be exchanged for two (2) shares of $50.00 par value common stock, resulting in an outstanding issue of 2,000 shares.

(23183—20M—8-46)

(Disregard this Article where the amendments contain no such provisions.)

ARTICLE FIFTH: The manner in which the exchange, reclassification, or cancellation of issued shares, or the reduction of the number of authorized shares of any class below the number of issued shares of that class, provided for said amendment or amendments, shall be effected, is as follows:

Each of the original $100.00 par value shares of common stock issued and outstanding, being 1,000 in number, will be exchanged for two (2) shares of $50.00 par value common stock, resulting in an outstanding issue of 2,000 shares.

(Disregard this Paragraph where amendments do not affect stated capital or paid-in surplus.)

ARTICLE SIXTH: Paragraph 1: The manner in which said amendment or amendments effecting a change in the amount of stated capital or the amount of paid-in surplus, or both, is effected is as follows:

(Disregard this Paragraph where amendments do not reduce stated capital.)

Paragraph 2: The amounts of stated capital and of paid-in surplus as changed by said amendment or amendments are as follows:

	Before Amendment	After Amendment
Stated capital .....$	$	
Paid-in Surplus ...$	$	

1982

ANNUAL REPORT

FOR

Secretary of State of Illinois

D 1660-058-0

FILE NO.

Please check box 1 or box 2 and pay the correct filing fee:

☐ 1. Annual Report Filing Fee..... $15.00 ONLY

☒ 2. Annual Report Filing Fee with Agent or Office Change..... $20.00 ONLY

FOR ADDRESS CHANGE ONLY DUE TO VILLAGE OF SAUGET CHANGING NAME OF STREET FROM MONSANTO AVE. TO FALLING SPRINGS RD.

2.) FOR CHANGES ONLY

Same
~~ADDRESS CHANGE ONLY~~
Registered Agent

2300 Falling Springs Rd.
Registered Office - Street Address

Sauget, Illinois 62206
City, County, IL Zip Code

RECEIVED AND FILED

1.) STERLING STEEL CASTING CO.
% W J SHIVE
2300 MONSANTO AVE
SAUGET, ILLINOIS 62202

changed to 2300 Falling Springs Rd.
Sauget, Illinois 62206

1982 ST CLAIR

CORPORATE NAME
REGISTERED AGENT
REGISTERED OFFICE
CITY, STATE, ZIP CODE

JIM EDGAR
Secretary of State

3.) Federal Employers Identification Number (FEIN) 37 0 5 3 4 9 3 0 ; State of incorporation Ill. ; date of incorporation 7-10-22 ; period of duration continuous ; and if a foreign corporation; the address of the principal office in the State of incorporation is

n/a

4.) The names and addresses of the officers and directors are: *(If officers are directors, so state.)*

	NAME	OFFICE	NUMBER & STREET	CITY	STATE	ZIP
*	W. J. Shive	President	23 Orchard Dr.,	Belleville,	Illinois	62221
*	Mrs. Mary L. Shive	Secretary	23 Orchard Dr.	Belleville,	Illinois	62221
	W. J. Shive	Treasurer	23 Orchard Dr.	Belleville,	Illinois	62221
	J. O. Shive	Director	1530 Mascouth Ave.	Belleville,	Illinois	62221
*	C. R. Shive Asst. Sec'y.	Director	7917 W. Washington	Belleville,	Illinois	62221
	M. B. Milonski	Director	12854 Partridge Run	Spanish Lake,	Missouri	63033

*Also a Director.

5.) The type of business actually conducted in Illinois is: Manufacturer of steel castings.

6.) Number of shares authorized and issued *(as of December 31st)*

CLASS	SERIES	PAR VALUE	NUMBER AUTHORIZED	NUMBER ISSUED
Common	None	$50.00	4,000	4,000

7.) The amount of stated capital and paid-in surplus as of December 31st is:

STATED CAPITAL $ 200,000.00

PAID-IN SURPLUS $

TOTAL $ 200,000.00

(Please complete reverse side of this report)

Under the penalty of perjury and as an authorized officer, I declare that this annual report and, if applicable, the statement of change of registered agent and/or office, pursuant to provisions of the Business Corporation Act, has been examined by me and is, to the best of my knowledge and belief, true, correct, and complete.

By _____ W.J. Shive, President 2-26-82
(Any Authorized Officer's Signature) *(Title)* *(Date)*
(Pres. or V. Pres. required if changes listed in 2)

Attest Mrs. Mary L. Shive MRS. MARY L. SHIVE, CORP. SECRETARY
(Secretary's or ass't. Secretary's Signature required only if changes listed in 2) *(Title)* *(Date)* 2/26/82

place corporate seal here

THIS REPORT MUST BE SIGNED

Question 25

File Number 1660-358-0

STATE OF ILLINOIS

OFFICE OF THE SECRETARY OF STATE

To all to whom these Presents Shall Come, Greeting:

I, Jim Edgar, Secretary of State of the State of Illinois, do hereby certify that STERLING STEEL CASTING CO., A DOMESTIC CORPORATION, INCORPORATED UNDER THE LAWS OF THIS STATE JULY 10, 1922, APPEARS TO HAVE COMPLIED WITH ALL THE PROVISIONS OF THE BUSINESS CORPORATION ACT OF THIS STATE, RELATING TO THE FILING OF ANNUAL REPORTS AND PAYMENT OF FRANCHISE TAXES, AND AS OF THIS DATE, IS IN GOOD STANDING AS A DOMESTIC CORPORATION OF THE STATE OF ILLINOIS.**********

In Testimony Whereof, I hereto set my hand and cause to be affixed the Great Seal of the State of Illinois,

Done at the City of Springfield this 20TH day of AUGUST A. D., 19 82

Jim Edgar

SECRETARY OF STATE

Question
25 and 27

original
counterpart
signed

AGREEMENT

ARTICLE I

GENERAL STATEMENT

This is an Agreement by and between ST. LOUIS STEEL CASTING INC., a Missouri corporation, ("Steel Casting") and STERLING STEEL CASTING CO., an Illinois corporation, ("Sterling");

1.1 Sterling is engaged in the miscellaneous carbon steel foundry business.

1.2 Sterling is desirous of terminating its business and disposing of its assets upon substantial completion of its current orders.

1.3 Sterling proposes to sell and Steel Casting to purchase certain of Sterling's assets as hereinafter set out.

NOW, THEREFORE, in consideration of the foregoing and of the mutual agreements hereinafter set forth, the parties agree as follows:

ARTICLE II

ASSETS TO BE SOLD

2.1 Subject to the conditions hereinafter set forth, on the Closing Date, as hereinafter defined, Sterling agrees to sell and transfer to Steel Casting and Steel Casting agrees to purchase the following assets:

(a) The fifteen (15) acres of real estate; the foundry and other improvements thereon and fixtures thereto; all machinery, patterns, spare parts and equipment owned by Sterling; all as described in Exhibit 2.1(a) (the "Plant");

(b) The raw materials and supplies on hand in the Plant, or under order for delivery to the Plant except such as Steel Casting may reject, as provided in Section 2.4(b) hereof (the "Raw Materials");

(c) The work in process inventory, together with contracts (or orders) under which such goods are being produced; and the finished goods inventory;

(d) All orders against which production has not yet started shall be assigned to Steel Casting, together with copies of pertinent portions of all past and present customers' files, and custody of all customers' patterns held by Sterling (the "Order and Patterns"); and

(e) The right to use the name "Sterling" and all trade names and trademarks of Sterling and the business and good will associated therewith; provided that Steel Casting shall make such change in the Sterling logo as shall enable castings made by Steel Castings to be distinguished from castings made by Sterling.

2.2 Sterling, at the time of said purchase, shall have completed its production activities; shall have discharged its employees; shall turn over full possession of the above assets to Steel Casting.

2.3 Sterling shall retain all of its assets not conveyed hereunder; shall remain liable for all of its obligations; shall hold Steel Casting harmless against the claims of any creditor of Sterling's or anyone asserting any claim against Steel Casting arising out of any action of Sterling.

2.4 The price to be paid shall be as follows:

(a) For the Plant, Steel Casting shall pay:

(i) the basic sum of Five Hundred Thousand Dollars ($500,000); this shall be represented by Steel Casting's promissory note in that amount due in its entirety at the expiration of five (5) years after the Closing (subject to prepayment without penalty); interest thereon shall be paid

at the rate of twelve percent (12%) per annum on unpaid balances thereof; such interest shall be paid monthly. The note shall be secured by a first deed of trust upon the Plant and improvements and by a first security interest in certain of the machinery and equipment; and

(ii) in addition to the above basic sum, during the period commencing October 1, 1982 and ending September 30, 1989 (unless sooner terminated as hereinafter provided) Steel Casting shall pay to Sterling (within ninety (90) days after conclusion of each fiscal year of Steel Casting during said period) a sum equal to ten percent (10%) of the net earnings, after taxes, of Steel Casting, for each said fiscal year, computed as hereinafter described: each said payment of ten percent (10%) of said net earnings shall be made after each said period within the time allowed therefore, without the payment of any interest thereon; provided, that upon the expiration of the fiscal year ending September 30, 1989 or upon the payment of an aggregate of $500,000 of said additional contingent price, whichever shall first occur, the obligation of Steel Casting to make said additional contingent payments hereunder shall cease; and Sterling shall have no further interest in the net earnings of Steel Casting;

The net earnings, after taxes, of Steel Casting, as computed for the above purpose, shall be those resulting from the operation by Steel Casting of its St. Louis, Missouri foundry and the operation by its wholly-owned subsidiary, Electrocast Steel Foundry, Inc. ("Electrocast") of its Cicero, Illinois foundry and from the operation of the plant or business of Sterling being acquired hereunder and from the operation of any other foundry wholly-owned by

Steel Casting or by a wholly-owned subsidiary of Steel Casting; so that in computing said net income all corporate deductions of Steel Casting and Electrocast of all sorts, including, by way of enumeration, deduction for wages, salaries, legal and accounting fees, overhead, cost of material, interest (except interest on borrowings to acquire or hold securities or other non-foundry assets), depreciation and depletion and all income and other taxes (computed on a pro-forma basis) shall be made; but no interest income nor dividend income nor capital gains nor income from transactions other than the operation of said foundries shall be included in computing said income; said net income, as herein described, shall be computed in conformity with generally accepted accounting principles consistently applied and shall be duly certified by Touche Ross & Co. or another national accounting firm of similar stature. Nothing herein contained shall require Steel Casting or any wholly-owned subsidiary of Steel Casting to continue foundry operations if, in the judgement of the directors of Steel Casting, such operations shall not be in the best interests of Steel Casting; provided, however, that beginning with the fiscal year in which Steel Casting and its wholly-owned subsidiaries shall no longer operate any wholly-owned foundry, and continuing for the remainder of the period ending on September 30, 1989 (or until $500,000 additional contingent compensation shall have been paid hereunder), Steel Casting shall pay to Sterling at the end of each such remaining fiscal year, an annual sum equal to the average annual payment made by Steel Casting to Sterling under this Section 2.4(a)(ii) on account of previous fiscal years; such annual payment shall be determined by adding the sums paid by Steel Casting to Sterling under this Section 2.4(a)(ii) for each of preceding fiscal years (but not for more than three (3) immediately proceding fiscal years) and dividing said sum by the total number of said preceding fiscal years on account of which said sums were paid.

(b) For the Raw Materials not rejected by Steel Casting, Steel Casting shall pay Sterling's cost therefor; such payment shall be made in three (3) installments: one-third (1/3) at the Closing; one-third (1/3) at the expiration of six (6) months and one-third (1/3) on June 30, 1983. Nothing herein shall be deemed to require Steel Casting to purchase raw materials and supplies which in its judgment it does not require.

(c) (i) For the work in process not yet in the cleaning room at the Closing, Steel Casting shall pay $1,372 per ton, and for work in process in the cleaning room at the Closing, $1,690 per ton. The payment for the work in process shall be made by Steel Casting as follows: one-sixth (1/6) thereof thirty (30) days after the Closing and one-sixth (1/6) each thirty (30) days thereafter, so that such payment shall be completed by the expiration of six (6) months after the Closing.

(ii) For the finished goods made to order, Steel Casting shall pay eighty-five percent (85%) of the sales price thereof; and for the finished goods not made to order, eighty-five percent (85%) of the price realized upon the sale thereof; Steel Casting shall pay for such finished goods within thirty (30) days after each item shall have been shipped; provided, that any of said items remaining unsold or unshipped on June 30, 1983, at Steel Casting's option, may be returned to Sterling or (at Sterling's option) remelted; and in the latter case, Steel Casting, instead of paying the finished goods price therefor shall pay the scrap value thereof.

(iii) Finished goods, the sale of which has been completed by Sterling at the time of Closing but delivery of which has been delayed by the customer, shall be held by Steel Casting at no charge to Sterling until such time as delivery thereof shall be made; provided that Sterling shall cause the removal of said castings from the Plant not later than June 30, 1983.

(iv) The orders under which said work in process and finished goods have been made shall not be valued.

(d) In the event that any castings sold by Sterling before the Closing shall be rejected and returned by the purchaser for replacement or credit, Steel Casting, after giving Sterling reasonable notice, may replace such casting or credit such customer and shall be reimbursed by Sterling for the cost of such replacement or the amount of such credit; provided, that no such replacement or credit shall be charged to Sterling if made after the expiration of ten (10) months after the Closing.

ARTICLE III

REPRESENTATIONS AND WARRANTIES OF STERLING

Sterling hereby makes to Steel Casting the following representations and warranties:

3.1 Corporate Existence and Qualification of Sterling. Sterling is a corporation duly organized, validly existing, and in good standing under the laws of the State of ~~Illinois~~. Sterling has full corporate power and authority to own its assets and to transact its business at the places where such assets are presently located and in the places and in the manner in which such business is presently being conducted; and to the best of Sterling's knowledge, information and belief, Sterling holds all franchises, licenses and permits necessary and required therefor; these are on file at Sterling's offices and available for Steel Casting's inspection.

3.2 Authorization of Transaction. The execution and consummation of this Agreement has been duly authorized by the requisite action of the directors of Sterling and will be presented to a meeting of its shareholders, and if approved by a vote of two-thirds (2/3) of the outstanding stock, this Agreement will become the binding agreement of Sterling.

3.3 Financial Statements and Conditions. Sterling has delivered to Steel Casting the Statements of Income and Balance Sheets of Sterling for each of its fiscal years ended December 31, 1975 through December 31, 1981. These have been appended hereto as Exhibit 3.3. The Balance Sheets and the Statements of Income have been prepared in conformity with generally accepted accounting principles consistently applied and present fairly the financial position of Sterling at December 31, 1981, and the results of operations of Sterling for the fiscal periods therein respectively indicated. As of December 31, 1981, Sterling did not have any debts, obligations or liabilities of any nature, whether known or unknown, accrued or not accrued, absolute, contingent or otherwise, except for those reflected or reserved against in the Balance Sheet or expressly mentioned in this Agreement or in an exhibit hereto.

3.4 Events Subsequent to December 31, 1981. Except as contemplated by this Agreement, since December 31, 1981, there has been no:

(a) change in the condition of the assets, liabilities or business of Sterling other than changes in the ordinary course of business, none of which has been materially adverse except that Sterling's order backlog has been drastically reduced.

(b) damage, destruction or loss whether covered by insurance or not, materially affecting the property or business of Sterling.

Since December 31, 1981, Sterling has not taken any action nor permitted any event to occur or condition to exist which would have been prohibited by Article IV had this Agreement been in effect at all times since such date.

3.5 Tax Returns and Audits. Except as stated in Exhibit 3.5 hereto, (i) Sterling has filed, or caused to

be filed, with the appropriate agencies all tax returns and tax reports required by law to be filed by Sterling; (ii) there exists no unpaid foreign, federal, state, county or city income or other tax or any tax deficiency assessed against Sterling by any governmental authority having jurisdiction thereof which would be an encumbrance against the assets being sold hereunder; and (iii) all income, profits, franchise, sales, use, occupation, property, excise, ad valorem and other taxes, licenses or imposts due which could be an encumbrance against the assets being sold hereunder have been fully paid, except only property taxes for the year 1982 and subsequent. Copies of Sterling's federal income tax returns for the taxable years ended December 31, 1975 through December 31, 1981 as filed with the Internal Revenue Service have been delivered by Sterling to Steel Casting. No waiver of any statute of limitations has been given in respect to the assessment of any taxes.

3.6 Litigation. Except as set out in Exhibit 3.6, there is no claim, action or proceeding now pending or to the knowledge of Sterling threatened against Sterling, before any court, administrative or regulatory body, or any governmental agency which could result in any judgment, order, decree, or other determination which could have a material adverse effect upon the properties, business or condition, financial or otherwise, of Sterling or which could prevent or impede the consummation of the transactions contemplated by this Agreement; and no such judgment, order or decree has been entered nor any such liability therefor incurred which has, or could have, such effect; and Sterling

knows of no basis, nor has reasonable grounds to know of any basis or alleged basis for such litigation or proceeding or of any governmental investigation relative thereto.

3.7 No Violation of Statute or Breach of Contract. Sterling is not in default under or in violation of, any applicable statute, law, ordinance, decree, order, rule, regulation or any government body, or the provisions of any franchise or license, or in default under, or in violation of, any provision of its certificate of incorporation, by-laws, any promissory note, indenture or any evidence of indebtedness or security therefor, lease, contract, purchase or other commitment or any other agreement by which it is bound, which may result in a material adverse effect on the business or condition, financial or otherwise, of Sterling; and the consummation of this Agreement and the transactions contemplated hereby will not constitute or result in any such default, breach or violation.

3.8 Title to Assets. Sterling has good and merchantable title to all real and personal property and to all the rights, interests, properties and assets tangible or intangible, (including inventory) reflected in the Balance Sheet, or which were acquired since the Balance Sheet Date, excepting only such items as may have been disposed of thereafter in the ordinary course of business; except as set out in Exhibit 3.8 attached hereto, it owns all of said property free and clear of all liens, encumbrances, equities, charges, easements, rights of way, restrictions of every kind or of any reservations, limitations or other imperfections of title, except for liens of taxes which are not now due and payable; and there exists no restriction on the transfer of such property; and at the Closing Date, Sterling will have and transfer to Steel Casting good and merchantable title to all of the assets to be sold hereunder.

3.9 Leased Property. Sterling is the lessee of no real or personal property, except as set out in Exhibit 3.9 attached hereto; and the leases under which Sterling may hold any leased property are in full force and effect and Sterling is not in default thereunder.

3.10 Condition of Property. All property and assets currently used by Sterling are in good operating condition and repair, ordinary wear and tear excepted, as required for their use in the business of Sterling. Steel Casting, however, shall have the right to inspect such property and failure to inspect shall constitute acceptance thereof. To the best of the knowledge, information and belief of Sterling, all such property and assets conform to all applicable laws. No notice of any violation of any law, statute, ordinance, or regulation relating to any such property or assets has been received by Sterling, except such as have been fully complied with.

3.11 Insurance Policies. All insurance policies and bonds now in force and all other policies at any time in force during the past three years covering Sterling or any of its properties, operations or personnel are set forth on Exhibit 3.11 hereto.

3.12 Books and Records. The books of account, stock record books and minute books and other corporate records of Sterling are in all material respects complete and correct, have been maintained in accordance with good business practices and the matters contained therein are appropriately and accurately reflected in the Balance Sheet.

3.13 Brokers' Fees. Sterling has not retained any broker or agreed to pay any brokerage fee or commission to any agent or broker for, or on account of, this Agreement or the transactions contemplated hereby.

3.14 Labor Agreement, Employee Benefit Plans and Employment Agreement. Except as set out in Exhibit 3.14, Sterling is not a party to (i) any union collective bargaining or similar agreement; (ii) any employees' (excluding officers) profit sharing, deferred compensation, bonus, stock option, stock purchase, pension, retainer, consulting, retirement, welfare or incentive plan or agreement which is legally binding on Sterling; (iii) any legally binding plan providing for "fringe benefits" to its employees (excluding officers), including, but not limited to, vacation and sick leave plans and related benefits; and (iv) any written employment agreement which would in any way be binding upon Steel Casting upon consummation of this Agreement; and none of the foregoing nor any negotiations, demands, or proposals which concern matters now covered, by the type of agreement listed in this section, will interfere with the consummation of this Agreement.

3.15 Material Contracts. Exhibit 3.15 contains a complete list of all Material Contracts to which Sterling is a party, and which in any way affect Sterling, excepting those specifically mentioned or listed elsewhere in this Agreement or in another exhibit hereto. Sterling has delivered to Steel Casting true and complete copies of all Material Contracts in effect as of the date hereof. Except as set forth in Exhibit 3.15, each Material Contract is valid and subsisting and is in full force and effect in accordance with the copies thereof so delivered. Except as may otherwise ultimately be determined in litigation set forth in Exhibit 3.6 or otherwise may ultimately be determined in litigation filed with respect to claims unknown to Sterling as of the date hereof, no party to any Material Contract is in material default in any provision thereof, nor to the best of the knowledge, information and belief of Sterling has any event occurred which

under any circumstances would constitute a default thereunder or cause the acceleration of any obligation of any party thereto or the creation of any lien or encumbrance upon any assets of Sterling or the issurance of any injuctive order against Sterling.

The term "Material Contract: as used herein shall include a (i) contract of employment, (ii) labor union or collective bargaining agreement, (iii) pension, profit sharing, retirement, employee insurance or other fringe benefit arrangement or agreement, (iv) contract of any sort or nature which is not terminable by Sterling at will without penalty within ninety (90) days after the Closing, (v) contract which under any circumstances would result in the payment or receipt by Sterling or more than Ten Thousand Dollars ($10,000), (vi) agreement involving the performance of personal services of any character, (vii) agreement calling for the payment of any royalties of any nature, (viii) lease of equipment, machinery or other personal property, (ix) governmental permit or license other than those relating to the corporate existence of Sterling, or (x) contract which, without the consent or agreement of the other party, is non-assignable, would be deemed breached or in default, or is subject to acceleration, termination or other alteration of terms or effect, as a result of any assignment incident to the sale or transfer hereunder of said assets of Sterling, or (xi) other contract not in the ordinary course of business.

3.16 Labor Disputes; Unfair Labor Practices. There is not pending, nor to the best of the knowledge, information and belief of Sterling is there threatened, or labor dispute, strike or work stoppage of employees of Sterling. To

the best of the knowledge, information and belief of Sterling, neither Sterling, nor any agent, representative or employee of Sterling has committed any unfair labor practice as defined in the Labor Management Relations Act of 1947, as amended 1959, 29 U.S.C. §§141 et seq. There is not now pending, nor to the best of the knowledge, information and belief of Sterling is there threatened, any charge or complaint against Sterling by the National Labor Relations Board or any representative thereof.

3.17 Contract Violations and Tort Claims. Except as shown on Exhibit 3.17, no claims for breach of contract are pending against Sterling, except routine claims which in the aggregate do not exceed Five Thousand Dollars ($5,000) in amount or which are covered by insurance. Except as shown on Exhibit 3.17, no tort claims for damages are pending against Sterling, except routine claims which in the aggregate do not exceed Five Thousand Dollars ($5,000) or which are covered by insurance. To the best of the knowledge, information and belief of Sterling, no events have occurred which could give rise to any claim described in this Section.

3.18 Corporate Records. Copies of the Articles of Incorporation and By-Laws of Sterling and all amendments thereto have been delivered to Steel Casting and are complete to the date hereof; the minute book record of all of the actions taken by the directors and shareholders of Sterling to authorize this transaction shall be delivered to Steel Casting and will be correct and complete to the date thereof.

3.19 Actions Since Balance Sheet Date of December 31, 1981. Since the Balance Sheet Date, Sterling has operated its business in the ordinary course and in accordance with good practice.

3.20 Reaffirmation of Warranties and Representations. At the Closing Date, Sterling will deliver to Steel Casting a written reaffirmation of all the foregoing warranties and representations made as of the Closing Date.

ARTICLE IV

COVENANTS OF STERLING

Sterling hereby covenants and agrees with Steel Casting as follows:

4.1 Negative Covenants. From the date hereof until the Closing Date, Sterling will not, without Steel Casting's prior written consent in each case:

(a) Enter into, modify, extend, exercise any right of termination under, or breach any Material Contract or real property lease, except for transactions in the ordinary course of business; or

(b) Subject any of its assets to any lien or encumbrance or dispose of any assets, except in the ordinary course of its business.

4.2 Affirmative Covenants. From the date hereof until the Closing, Sterling will (except in accordance with Steel Casting's prior written consent) in each case:

(a) Continue to operate its business in the ordinary course (until its said closing on ~~July 31, 1982~~) and in accordance with good practice and use its best efforts to maintain in good standing its respective licenses and agreements, to preserve intact ~~its assets and properties and~~ the good will of all customers and other persons with whom it has business relations; but at the same time diligently attempt to complete and ship by ~~July 31, 1982~~ as many as possible of its orders now in existence; to keep all of its present insurance coverage on its assets and operations in full force and effect; to use its best efforts to retain and assign to

Steel Casting all other orders held by it; shall in pursuance thereof promptly notify all such customers that Steel Casting is acquiring the assets in a communication approved by Steel Casting; furnish Steel Casting a copy of each said communication; provided, however, that this paragraph shall not authorize or obligate Sterling on Steel Casting's behalf to take any action prohibited by any of the other provisions of this Agreement, but Sterling will promptly advise Steel Casting of any circumstances whereunder the best interests of Sterling require that any such commitment be made or action be taken;

(b) Permit Steel Casting to review any and all of the acts and transactions of Sterling during the period from the date hereof to the Closing Date and comply with any reasonable request of Steel Casting calculated to achieve the purposes of this Section;

(c) Afford Steel Casting, by its authorized representatives, full access during normal business hours to Sterling's respective offices, records and books of account, and all reasonable assistance and cooperation to enable Steel Casting to investigate Sterling's assets and business operations and the correctness of Sterling's respective covenants, representations and warranties and of the conditions to Steel Casting's obligation hereunder.

4.3 Use of Information. Steel Casting will hold in secrecy all confidential information it receives concering Sterling in the course of its investigations hereunder.

ARTICLE V

CONDITIONS TO OBLIGATIONS OF STEEL CASTING

5.1 The obligations of Steel Casting hereunder are subject to the following conditions:

(a) That upon its inspection of the Plant, raw materials and work in process, which Steel Casting shall make on or before the Closing, Steel Casting shall be satisfied that the Plant is in good operating condition and that the raw materials and work in process have a fair market value equal to the price to be paid therefor, as of the date of such inspection.

(b) That during the period beginning on the date of such inspection, and ending on the Closing Date, there has been no change in the condition of Sterling's assets, other than changes occasioned by ordinary wear and tear occurring in the ordinary course of business.

(c) That all warranties and representations contained in Article III herein shall have been restated in writing by Sterling as of the Closing Date and shall be true and correct as of the Closing Date.

(d) That all of Sterling's covenants and agreements provided for in Article IV herein shall have been duly complied with.

(e) That all of the exhibits provided for herein shall have been amended by Sterling where necessary to render them correct and complete as of the Closing Date.

(f) That Sterling shall furnish to Steel Casting the certificate in the form set forth as Exhibit 5.1(f).

(g) That Sterling shall have ceased its foundry operations and discharged its employees fifteen (15) days prior to the Closing Date.

5.2 Waiver. Steel Casting may waive one or more of the foregoing conditions to its obligations.

ARTICLE VI

DOCUMENTS TO BE DELIVERED BY STERLING ON THE CLOSING DATE

6.1 Opinion of Counsel. Steel Casting shall have received from counsel for Sterling an opinion of said counsel as of the Closing Date to the effect that:

(a) Sterling is a corporation duly organized, validly existing and in good standing under the laws of the State of Illinois; and has the corporate power to own property and carry on business, and is duly qualified to do business and is in good standing in each state where its assets are located.

(b) Sterling has the full right and authority to enter into and to consummate this Agreement and the execution and consummation hereof has been duly authorized by the requisite action of its directors and shareholders.

(c) This Agreement when executed and delivered will constitute the valid and legally binding obligation of Sterling.

(d) To the best of such counsel's knowledge, information and belief, there is no action, suit, proceeding, investigation, claim or litigation pending or threatened, relating to the transactions provided for in this Agreement.

(e) To the best of such counsel's knowledge, information and belief and based upon representations made to such counsel for Sterling, Sterling has good and merchantable title to all of the assets to be sold to Steel Casting hereunder (less normal changes in the ordinary course of business), free and clear of all liens, claims or encumbrances of any sort whatsoever, except those set out in Exhibit 3.8.

6.2 Steel Casting shall have received from Sterling, in addition to the audited financial statements for each of

the three (3) calendar years 1979, 1980 and 1981, manually signed accountant's reports for each of said years; and a stub financial statement for the period January 1, 1982 to July 31, 1982 which will be in proper form for Steel Casting to use in connection with its required filings with the Securities and Exchange Commission.

ARTICLE VII

CLOSING

7.1 The Closing. The Closing shall take place at the office of Peper, Martin, Jensen, Maichel and Hetlage, 720 Olive Street, St. Louis, Missouri, on August 30, 1982, or at such other time and place as Sterling and Steel Casting shall agree upon in writing.

7.2 Actions of Sterling at Closing. Subject to the terms and conditions of this Agreement, at the Closing Sterling shall deliver to Steel Casting:

(a)(i) A general warranty deed conveying fee simple absolute title to the Plant; said deed shall be accompanied by a policy of title insurance (by a title company acceptable to Steel Casting) insuring good mercantable title in Steel Casting as the grantee of said deed;

(ii) Such bills of sale, assignments and other conveyances as shall be required to assign good merchantable title to all of the machinery and equipment (including automotive equipment) and other assets to be conveyed as a portion of the Plant;

(iii) Such bills of sale, assignments and other conveyances as shall be required to assign good merchantable title to the Raw Materials;

(iv) Such bills of sale, assignments and other conveyances as shall be required to assign good merchantable title to the Work in Process and finished goods;

(v) Copies of pertinent portions of customers' files, and such bills of sale, assignments and

other conveyances as shall be required to assign good merchantable title to the Orders and custody of the customers' Patterns;

(vi) Such bills of sale, assignments and other conveyances as shall be required to assign the right to use the name Sterling and Sterling trademarks and trade names and the business and good will associated therewith and all interests in patents.

(b) Such certificates of officers of Sterling, copies of documents or other instruments as Steel Casting may reasonably request in addition to those specified in Article VI above, to corroborate the correctness of Sterling's representations and warranties contained herein and the fulfillment of Sterling's covenants and the conditions to Steel Casting's obligations hereunder.

7.3 Actions of Steel Casting at Closing. Subject to the terms and conditions of this Agreement, at the Closing Steel Casting will deliver to Sterling:

(a) Certified or cashiers' checks for the cash payment at Closing as above provided in Section 2.4(b); and

(b) Promissory Note secured by a real estate mortgage and a security interest as provided by Section 2.4(a)(i); such security interest shall cover the principal machinery and equipment purchased from Sterling hereunder, and proper filings shall be made to place such security interest on record as a first security interest; it shall be provided in the mortgage and security agreement that equipment covered thereby may be freely moved by Steel Casting so long as it preserves the first security interest of Sterling therein; the machinery and equipment may also be freely traded for similar items to which in substitution the lien of the security agreement shall apply; in each of its fiscal years Steel Casting also may sell, free and clear of the mortga and security agreement, land, improvements, machinery and equipment,

for net sums aggregating up to $20,000; but in the event that Steel Casting shall sell machinery, equipment, real estate or improvements for net sums aggregating more than $20,000 in any one fiscal year, all net proceeds received by Steel Casting in excess of $20,000 shall in such event, be paid over to Sterling in prepayment of the Promissory Note.

ARTICLE VIII

SURVIVAL OF REPRESENTATIONS AND WARRANTIES AND INDEMNIFICATION

8.1 Survival. All covenants, agreements, representations and warranties made in this Agreement shall be deemed to be material and relied upon by the parties with or to whom the same were made, and shall survive the Closing regardless of whether the other party shall have actual knowledge of any breach thereof.

8.2 Notes May be Credited. To indemnify and hold Steel Casting harmless from and against any and all loss, liabilities, damage, and other expenses (including, but not limited to, reasonable attorney's fees and other costs and expenses thereto) arising out of or resulting from any breach of the representations, warranties and covenants of Sterling contained in this Agreement, or in any exhibit or document delivered hereunder, Steel Casting (without limiting its right or recourse at law or in equity against Sterling for any said loss, liability, damage or other expense) may, in its discretion, offset any part or all of any such loss, liability, damage or other expense, pro tanto, against the balance due upon the Note.

ARTICLE IX

MISCELLANEOUS

9.1 Governing Law. This Agreement shall be construed and enforced in accordance with the laws of the State of Illinois

9.2 Entire Agreement and Modification. This Agreement expresses the entire agreement between the parties and shall supersede all negotiations and discussions occurring prior to its execution. No change in, modifications of, or additions to this Agreement shall be valid unless the same shall be in writing and signed by the parties hereto.

9.3 Binding Agreement; Assignment. This Agreement shall be binding upon and inure to the benefit of the parties named herein and to their respective successors and assigns.

9.4 Headings. The Article and Section Headings contained in this Agreement were inserted for convenience only and shall not affect in any way the meaning or interpretation of the Agreement.

9.5 Payment of Fees and Expenses. Each party hereto shall pay all fees and expenses of such party's respective counsel, accountants and other experts and all other expenses incurred by such party incident to the negotiation, preparation and execution of this Agreement and the consummation of the transactions contemplated hereby.

9.6 Brokers. No person acted as a broker or finder for Sterling or Steel Casting. If any person shall claim to have been engaged as a broker or finder by one of the parties hereto, then that party shall indemnify the other parties against any claim by such claimant for commissions, fees or other compensation with respect thereof.

9.7 Real estate and personal property taxes and utility and other expenses shall be prorated as of the Closing Date and Sterling shall pay to Steel Casting its pro rata share thereof on or before the time which such taxes and expenses are due.

9.8 This Agreement may be assigned by Steel Casting to a corporation wholly owned by Steel Casting; provided,

that in such event Steel Casting shall guaranty the obligations of said corporation to Sterling.

9.9 Sterling shall secure endorsements to its policies for fire and extended and other property insurance upon the Plant and other assets being sold to Steel Casting hereunder in which Steel Casting shall be named as a beneficiary as its interest may appear; in the event of a loss or damage to the Plant or said assets which is fully covered by insurance in an amount equal to the purchase price thereof as specified herein, Steel Casting shall not refuse to close this Agreement by reason of said loss or damage but instead accept said insurance proceeds.

9.10 Counterparts. This Agreement may be executed in multiple counterparts, each of which shall be considered an original and all of which shall comprise one instrument.

ARTICLE X

NOTICES

10.1 All notices, requests, demands and other communications hereunder shall be deemed to have been duly given if the same shall be in writing and shall be delivered personally or sent by registered mail, postage prepaid, as set forth below or at such other address as any party hereto may designate by prior written notice.

If to Steel Casting:

St. Louis Steel Casting Inc.
100 Mott Street
St. Louis, Missouri 63111

Copy to:

Christian B. Peper, Esq.
Peper, Martin, Jensen, Maichel and Hetlage
720 Olive Street, 24th Floor
St. Louis, Missouri 63101

If to Sterling:

Sterling Steel Casting Company, Inc.
Box 1740-80
Cahokia, Illinois 62206

Copy to:

J. Fred Schlafly, Esq.
Schlafly, Godfrey & Fitzgerald
First National Bank Building
P. O. Box 190
Alton, Illinois 62002

IN WITNESS WHEREOF, the parties hereto have executed this Agreement on the 30th day of July, 1982.

STERLING STEEL CASTING CO.

By _____

(SEAL)

ATTEST:

_____
Secretary

ST. LOUIS STEEL CASTING INC.

By _____

(SEAL)

ATTEST:

_____
Secretary

Question 25 and 27

AGREEMENT AND ASSIGNMENT

This is an agreement and assignment between St. Louis Steel Casting Inc. ("Steel Casting") and Sterling Steel Foundry, Inc. ("Foundry").

WHEREAS, on July 30, 1982 Steel Casting entered into the attached agreement with Sterling Steel Casting Co. ("Sterling") providing for the acquisition by Steel Casting of assets, all as set out in the agreement (the "Agreement"); and

WHEREAS, Steel Casting is desirous of assigning, and Foundry is desirous of accepting an assignment by Steel Casting of Steel Casting's right, title and interest in and to the Agreement;

NOW, THEREFORE, in consideration of the agreements herein contained, and in consideration of the sum of One Dollar ($1.00) paid by Foundry to Steel Casting, the parties hereto act and agree as follows:

1. Steel Casting herewith assigns, conveys, transfers and delivers to Foundry all of its right, title and interest in and to the Agreement.

2. Foundry herewith (a) accepts said assignment and agrees to be bound in the place and stead of Steel

Casting, and (b) agrees fully to perform all of the obligations to be performed by Steel Casting under the Agreement.

IN WITNESS WHEREOF, the parties hereto have executed this instrument on this 27 day of August, 1982.

ST. LOUIS STEEL CASTING INC.

By _____

STERLING STEEL FOUNDRY, INC.

By _____

DRAFT OF
C. B. PEPER
8-25-82

Question 25
and 27

CONVEYANCE

WHEREAS, on July 30, 1982, STERLING STEEL CASTING CO., an Illinois corporation ("Seller"), entered into an agreement (the "Agreement") with ST. LOUIS STEEL CASTING INC., a Missouri corporation ("Steel Casting"), which said Agreement was thereafter assigned to ELECTROCAST STEEL FOUNDRY, INC., an Illinois corporation ("Purchaser"); and the Agreement provides for the sale to Purchaser of certain assets described in the Agreement;

NOW, THEREFORE, in consideration of the foregoing, and of the considerations provided for in the Agreement, receipt of which is acknowledged by Seller, Seller herewith bargains, sells, grants, assigns, transfers, sets over, delivers and conveys to Purchaser, its successors and assigns, the following assets, to-wit:

1. The fifteen (15) acres of real estate; the foundry and other improvements thereon and fixtures thereto; all machinery, patterns, spare parts and equipment owned by Seller; all as described in Exhibit 1 attached hereto (the "Plant");

2 The raw materials and supplies on hand in the Plant, or under order for delivery to the Plant; all as described in Exhibit 2 attached hereto (the "Raw Materials");

3. The work in process inventory, together with contracts (or orders) under which such goods are being produced; and the finished goods inventory; all as described in Exhibit 3 attached hereto;

4. All orders against which production has not yet started, together with copies of pertinent portions of all

past and present customers' files, and custody of all customers' patterns held by Seller; all as described in Exhibit 4 attached hereto (the "Order and Patterns");

5. The right to use the name "Sterling" and all trade names and trademarks of Seller and the business and good will associated therewith; provided that Purchaser shall make such change in the Sterling logo as shall enable castings made by Purchaser to be distinguished from castings made prior to this Conveyance by Seller;

6. All patents held by Seller, including Patent Number 3075358; a copy thereof is attached hereto as Exhibit 6; and

7. The four (4) certain items of automotive equipment as set out in Exhibit 7 attached hereto.

To have and to hold the same unto Purchaser, its successors and assigns forever.

And the undersigned Seller, for its successors and assigns, covenants and agrees to and with Purchaser to warrant and defend the sale of the foregoing to the Purchaser, its successors and assigns, against all lawful claims, all as specifically provided in the Agreement; except, that with respect to the orders and patterns described in paragraph 4 above, Seller only conveys such rights as it may have in and to such orders and patterns.

Seller simultaneously herewith and in pursuance hereof, has executed and delivered or caused to be executed and delivered separate conveyances to Purchaser of the real estate described in paragraph 1 above; and Seller has directly assigned to Purchaser various certificates of title to the automotive equipment as described in paragraph 7 above.

The Seller further covenants and agrees that it will at any time and from time to time after the date of this Conveyance, upon the request of the Purchaser, execute, acknowledge, deliver and perform, or casue to be executed, delivered, or performed, all such further acts, deeds, assign-

ments, tranfers, conveyances, powers of attorney and assurances as may be required for the better vesting and confirming (but not enlarging) to the Purchaser of the title to and possession of any and all of the assets, properties and rights acquired by the Purchaser from the Seller under the Agreement and hereunder.

The Seller does hereby constitute and appoint the Purchaser as the Seller's true and lawful attorney with full power of substitution for it and in its name, place and stead or otherwise, but on behalf of and for the benefit of the Purchaser, to demand and receive from time to time any and all assets, properties and rights, both real, personal and mixed, tangible and intangible, hereby bargained, sold, transferred, assigned and conveyed or required so to be, and to give receipts and releases for and in respect of the same, and any part thereof, and from time to time to institute and prosecute in the name of the Seller or otherwise, but at the expense and for the benefit of the Purchaser, any and all proceedings at law, in equity or otherwise that the Purchaser may deem proper in order to collect, assert or enforce any claims, rights or title of any kind in and to the assets, properties, rights and privileges hereby bargained, sold, transferred, assigned and conveyed, or intended so to be, and to defend and compromise any and all actions, suits or proceedings in respect of any said property, assets, rights and privileges and, generally, to do any and all such acts and things in relation thereto as the Purchase shall deem advisable. The Seller hereby declares that the appointment hereby made and the powers hereby granted are coupled with an interest and are, and shall be, irrevocable by the Seller in any manner or for any reason, provided that nothing herein contained shall be deemed to enlarge the rights given to Purchaser under the Agreement.

IN WITNESS WHEREOF, the undersigned Seller has executed the foregoing Conveyance on this 31st day of August, 1982.

STERLING STEEL CASTING CO.

By W J Shive

ATTEST:

Mrs. Mary L Shive
Secretary

ACKNOWLEDGEMENT

STATE OF Missouri)
City OF St Louis)SS

I, Rebecca A Levy , a Notary Public, do hereby certify that before me this day in person appeared W J. Shive , personally known to be to be the President of Sterling Steel Casting Co., an Illinois corporation, and Mary L. Shive , personally known to me to be the Secretary of said corporation, and each and severally acknowledged that they signed and delivered the foregoing instrument in the respective capacities herein set forth and caused to be affixed thereto the corporate seal of said corporation, pursuant to authority given by the Board of Directors and shareholders of said corporation and under the articles and by-laws of said corporation, as the free and voluntary act and deed of said corporation, and as their own free and voluntary act and deed, for the uses and purposes therein set forth.

GIVEN UNDER my hand and seal this 31st day of August, 1982.

Rebecca A Levy
Notary Public
REBECCA A. LEVY
NOTARY PUBLIC, STATE OF MISSOURI
MY COMMISSION EXPIRES SEPT. 20, 1985
ST. LOUIS COUNTY

My Commission Expires:

9-20-85

FROM CHICAGO TITLE INSURANCE CO.

127993

A714454

Question 27

BOOK 2529 PAGE 1235

MORTGAGE DEED DOCUMENT NO. _____

Filed and Recorded _____, at _____ o'clock _____. M. _____
Recorder

THE MORTGAGOR, STERLING STEEL FOUNDRY, INC., an Illinois corporation, of the City of Belleville, County of Saint Clair, and State of Illinois, MORTGAGES and WARRANTS to STERLING STEEL CASTING CO., an Illinois corporation, of the City of Cahokia, County of Saint Clair, and State of Illinois, the following described real estate, situated in the County of St. Clair, and State of Illinois, with the improvements thereon and which may hereafter be placed thereon, including all heating, gas, electric and plumbing apparatus and everything appurtenant thereto, and including all rents, issues and profits of said premises which are hereby assigned to the mortgagee, to-wit:

PARCEL 1:

Part of Lots No. 120 and 125 of the "COMMONFIELDS OF CAHOKIA"; reference being had to the plat thereof recorded in the Recorder's Office of S. Clair County, Illinois, in Book of Plats "E" on pages 16 and 17, and more particularly described as follows, to-wit:

Beginning at a stone monument at the intersection of the West Right of Way line of the East St. Louis, Columbia and Waterloo Railway and the Southwesterly line of Lot No. 120 of the Commonfields of Cahokia; thence with the Southwesterly line of said Lot No. 120 North 42 degrees 52 minutes West 572.02 feet to a stone monument; thence North 62 degrees 31 minutes West, 592.81 feet to the East line of the lower Cahokia Road; thence North 77 degrees 37 minutes East 325.53 feet to a point, which is 25 feet South of the center line of the main track of the Alton & Southern Railroad; thence with a curve to the right having a radius of 540.19 feet a distance of 849.79 feet, more or less, to a point in the West Right-of-Way line of the East St. Louis, Columbia and Waterloo Railway; thence with said Right-of-Way line around a curve to the left making an interior tangential angle with the last described curve of 157 degrees 31 minutes and having a radius of 1960.1 feet a distance of 106.3 feet, more or less, to a point; thence still with said West Right-of-Way line with a line which is tangent to the last described curve South 7 degrees 8 minutes West, 246.37 feet to the point of beginning; also

PARCEL 2:

Part of Lots No. 120 and 121 of the "COMMONFIELDS OF CAHOKIA"; reference being had to the plat thereof recorded in the Recorder's Office of St. Clair County, Illinois, in Book of Plats "E" on pages 16 and 17, and more particularly described as follows, to-wit:

Beginning at the point of intersection of the Westerly Right of Way line of the East St. Louis, Columbia and Waterloo Railway with a line which is 50 feet Northeasterly from and measured at right angles to the Northeasterly line of the Sterling Steel Company property, said intersection point being 456.44 feet from the Southwesterly line of Lot No. 120 of the Commonfields of Cahokia, as measured along the Westerly Right of Way line of the East St. Louis, Columbia and Waterloo Railway; thence in a Northwesterly direction with a curve to the left of 590.19 feet radius, which is at every point 50 feet Northeasterly from and parallel to the Northeasterly line of the Sterling Steel Company property, a distance of 537.82 feet to a point situated 50 feet South of, measured at right angles to the center line of the track of the Alton and Southern Railroad; thence in a Northeasterly direction with a line which is at every point 50 feet Southeasterly from, measured at right angles to the center line of the track of the Alton and Southern Railroad, a distance of 578.96 feet to the Westerly Right-of-Way line of the East St. Louis, Columbia and Waterloo Railway; thence in a Southerly direction with the Westerly Right-of-Way line of the East St. Louis, Columbia and Waterloo Railway around a curve to the left of 1960.1 feet radius, a distance of 514.63 feet, more or less, to the point of beginning; also

PARCEL 3:

Lot No. 125-H of the "SUBDIVISION OF PART OF LOT 125 OF COMMONFIELDS OF CAHOKIA"; reference being had to the plat thereof recorded in the Recorder's Office of St. Clair County, Illinois, in Book of Plats "u" on page 37.

Excepting, however, that part thereof conveyed to Village of Monsanto, County of St. Clair, State of Illinois, by Deed dated August 6th, 1931 and recorded September 28th, 1931, in Book 792 on page 13, for public road purposes; also

PARCEL 4:

All that part of a 50 foot former Right-of-Way lying between Parcels 1 and 2 and lying Southeasterly of the Alton and Southern Railroad and Northwesterly of the East St. Louis, Columbia and Waterloo Railroad;

to secure the payment of one note dated August 30, 1982, executed by said mortgagor in the principal sum of Five Hundred Thousand Dollars ($500,000.00) payable to the order of STERLING STEEL CASTING CO., an Illinois corporation, on August 29, 1987, with interest at the rate of twelve percent (12%) per annum, payable monthly with the first interest payment being due on the 29th day of September, 1982, and on the 29th day of each month thereafter and the principal.

THE MORTGAGOR COVENANTS and AGREES to pay principal and interest of said mortgage or any installments thereof promptly when due, and to pay all taxes, special assessments and special taxes levied or assessed against said property or any part thereof and to deliver the official receipts therefor to the mortgagee upon demand, to keep the improvements on said premises insured against damage by fire, windstorm and such other hazards as the mortgagee may require to be insured against for the full insurable value in such companies and in such form as shall be satisfactory to the mortgagee, and deposit the insurance policies with the mortgagee; that the mortgagor will not commit waste on said premises and will maintain improvements in good condition and repair and will do no act that will allow a mechanic's lien to come against said premises.

IT IS FURTHER AGREED, that in the event of the failure of the mortgagor to make any of said payments or to perform any of the covenants herein, that the whole of said obligation and note shall, after notice as provided in the note, become due immediately without demand and the mortgagee may, at its option, file suit for foreclosure thereof and filing of the suit will be sufficient notice of declaring of the whole of said amount due; that any sums advanced by the mortgagee for taxes, special assessments, insurance premiums, repairs or any other sums which in its judgment might be necessary for the preservation of said premises, shall be added to and made a part of the principal amount, and shall draw interest at twelve percent (12%) after their payment, which sums shall be immediately due and payable.

IT IS FURTHER AGREED, that the mortgagor shall pay any sum which mortgagee may be put to for attorney's fees in defending any suit of any character in connection with said premises.

IT IS FURTHER AGREED, that all expenses and disbursements paid on behalf of the mortgagee in connection with the foreclosure of this mortgage, including reasonable and customary attorney's fees to be fixed by the Court in which proceedings are pending, outlays for documentary evidence, stenographer's charges, cost of procuring or completing abstract showing whole of title to said premises from the United States down to and including the final decree therein, Master's certificate of sale, and all other charges including any insurance due during the pendency of said foreclosure, shall be an additional charge and lien upon the premises herein described, and shall be added to and made a part of the sum which shall be adjudged and decreed to be due and owing under the provisions of said note or of this mortgage.

IT IS FURTHER AGREED, that the mortgagee shall have the right upon the filing of any complaint for the foreclosure of this mortgage to apply for and shall be entitled as a matter of right without regard to the value of the mortgaged premises or the solvency of the mortgagor or any subsequent owner of said premises, to have a receiver of the rents, issues and profits of said premises, which receivership shall continue until the expiration of any period of redemption from any sale, with the usual power of receivers in chancery, including the power to pay all taxes and assessments which now are or may become a lien on said premises, and that any amount collected by said receiver after payment of necessary costs of receivership, payment of taxes, assessments, repairs or expenses in connection with the upkeep of said premises, shall be applied upon any deficiency which may exist by virtue of such foreclosure proceedings and sale of said premises, and an assignment of all rents, issues and profits of said premises is hereby made to said mortgagee or the receiver, and upon default, the said mortgagee is authorized and empowered to enter into and upon and take possession of the premises hereby conveyed at any time, and to let same and collect all rents, issues and profits thereof.

All rights and obligations under this mortgage shall extend to and be binding upon the several successors and assigns of said mortgagor, and nothing hereafter done shall release the mortgagor from personal liability on said note.

This is a purchase money mortgage. The note herein described is also secured by security agreement of even date on certain machinery and equipment now located on the mortgaged premises.

William J. Shive and St. John's Bank and Trust Company or either of them have been irrevocably designated by the mortgagee as agent for it and its successors and assigns to give full or partial releases of this mortgage.

Dated this 30th day of August; A. D. 1982.

STERLING STEEL FOUNDRY, INC.

By: Earl J. Bewig
Its President

ATTEST: [illegible]
Secretary

STATE OF ILLINOIS) SS
COUNTY OF [illegible])
FILED FOR RECORD
IN THE RECORDER'S OFFICE

1982 SEP -1 PM 2:30

BOOK 2529 PAGE 1235

[illegible]
RECORDER

STATE OF MISSOURI)
) SS.
COUNTY OF ST. LOUIS)

I, the undersigned, a Notary Public, in and for said County and State aforesaid, DO HEREBY CERTIFY THAT Earl J. Bewig personally known to me to be the same person(s) whose name(s) is/are subscribed to the foregoing instrument, appeared before me this day in person and acknowledged that they/he/she signed, sealed and delivered the said instrument as their/his/her free and voluntary act, for the uses and purposes therein set forth, including the release and waiver of the right of homestead.

GIVEN under my hand and notarial seal, this 31st day of August, 1982.

Rebecca A. Levy
Notary Public

REBECCA A. LEVY
NOTARY PUBLIC, STATE OF MISSOURI
MY COMMISSION EXPIRES SEPT. 20, 1985
ST. LOUIS COUNTY

THIS INSTRUMENT PREPARED BY: SAMUELS, MILLER, SCHROEDER, JACKSON & SLY
406 Citizens Building, Decatur, Illinois - 62525

Question 27

PROMISSORY NOTE

$500,000.00

St. Louis, Missouri
August 30, 1982

For value received the undersigned promises to pay to the order of STERLING STEEL CASTING CO., at ST. JOHNS BANK AND TRUST CO., or such other place as the holder may designate in writing, the sum of Five Hundred Thousand Dollars ($500,000.00) on August 29, 1987, with interest on unpaid principal balances thereof at the rate of twelve percent (12%) per annum from date, payable on the 29th day of September, 1982, and on the 29th day of each month thereafter until the principal is paid in full. The maker may prepay all or any part hereof at any time or from time to time without penalty.

This Note is secured by real estate mortgage and by security agreement, both of even date herewith given by the maker to payee. This Note is given pursuant to a written agreement dated July 30, 1982, between the payee, as Seller, and ST. LOUIS STEEL CASTING, INC., as Buyer, whose interest therein was subsequently assigned to the maker, and this Note is subject to all of the provisions of said Agreement, including by way of enumeration and not of limitation, maker's rights of offset.

If default be made in the payment of any installment of interest when the same falls due, and shall remain in default 10 days after mailing notice thereof by registered mail to ST. LOUIS STEEL CASTING, INC., 100 Mott Street, St. Louis, Missouri 63111, the principal sum shall at the election of the holder at once become due and payable. In the event this Note is placed in the hands of an attorney for collection after maturity, the undersigned maker agrees to pay an additional amount equal to a reasonable attorney's fee and costs.

Presentment, protest and notice are hereby waived by the maker and all guarantors, endorsers or other parties liable hereon. The holder may rearrange, adjust and extend the times and amounts of payments of interest and principal on this Note by agreement with the maker but without releasing any party who may be liable hereon.

STERLING STEEL FOUNDRY, INC.

By _____
Its President

For valuable consideration, the undersigned guarantees the payment of the foregoing Note in accordance with its terms.

ST. LOUIS STEEL CASTING, INC.

By Earl J Bewig
Its President

On this 27th day of April, 1984, we herewith acknowledge receipt of the sum of $200,000 in partial payment of the principal amount of this note, leaving a principal balance due in the sum of $300,000.

William J. Shive

William J. Shive

Mary Louise Shive

Mary Louise Shive

Question 27

Mail Tax Statement To:

Sterling Steel Foundry, Inc.
c/o Christian Peper
720 Olive Street
St. Louis, MO 63101

WARRANTY DEED

DOCUMENT NO. _____

STERLING STEEL CASTING CO., an Illinois corporation, for and in consideration of Ten Dollars ($10.00) and other good and valuable consideration, in hand paid, conveys and warrants to STERLING STEEL FOUNDRY, INC., an Illinois corporation, the following described real estate:

PARCEL 1:

Part of Lots No. 120 and 125 of the "COMMONFIELDS OF CAHOKIA"; reference being had to the plat thereof recorded in the Recorder's Office of S. Clair County, Illinois, in Book of Plats "E" on pages 16 and 17, and more particularly described as follows, to-wit:

Beginning at a stone monument at the intersection of the West Right of Way line of the East St. Louis, Columbia and Waterloo Railway and the Southwesterly line of Lot No. 120 of the Commonfields of Cahokia; thence with the Southwesterly line of said Lot No. 120 North 42 degrees 52 minutes West 572.02 feet to a stone monument; thence North 62 degrees 31 minutes West, 592.81 feet to the East line of the lower Cahokia Road; thence North 77 degrees 37 minutes East 325.53 feet to a point, which is 25 feet South of the center line of the main track of the Alton & Southern Railroad; thence with a curve to the right having a radius of 540.19 feet a distance of 849.79 feet, more or less, to a point in the West Right-of-Way line of the East St. Louis, Columbia and Waterloo Railway; thence with said Right-of-Way line around a curve to the left making an interior tangential angle with the last described curve of 157 degrees 31 minutes and having a radius of 1960.1 feet a distance of 106.3 feet, more or less, to a point; thence still with said West Right-of-Way line with a line which is tangent to the last described curve South 7 degrees 8 minutes West, 246.37 feet to the point of beginning; also

PARCEL 2:

Part of Lots No. 120 and 121 of the "COMMONFIELDS OF CAHOKIA"; reference being had to the plat thereof recorded in the Recorder's Office of St. Clair County, Illinois, in Book of Plats "E" on pages 16 and 17, and more particularly described as follows, to-wit:

Beginning at the point of intersection of the Westerly Right of Way line of the East St. Louis, Columbia and Waterloo Railway with a line which is 50 feet Northeasterly from and measured at right angles to the Northeasterly line of the Sterling Steel Company property, said intersection point being 456.44 feet from the Southwesterly line of Lot No. 120 of the Commonfields of Cahokia, as measured along the Westerly Right of Way line of the East St. Louis, Columbia and Waterloo Railway; thence in a Northwesterly direction with a curve to the left of 590.19 feet radius, which is at every point 50 feet Northeasterly from and parallel to the Northeasterly line of the Sterling Steel Company property, a distance of 537.82 feet to a point situated 50 feet South of, measured at right angles to the center line of the track of the Alton and Southern Railroad; thence in a Northeasterly direction with a line which is at every point 50 feet Southeasterly from, measured at right angles to the center line of the track of the Alton and Southern Railroad, a distance of 578.96 feet to the Westerly Right-of-Way line of the East St. Louis, Columbia and Waterloo Railway; thence in a Southerly direction with the Westerly Right-of-Way line of the East St. Louis, Columbia and Waterloo Railway around a curve to the left of 1960.1 feet radius, a distance of 514.63 feet, more or less, to the point of beginning; also

PARCEL 3:

Lot No. 125-H of the "SUBDIVISION OF PART OF LOT 125 OF COMMONFIELDS OF CAHOKIA"; reference being had to the plat thereof recorded in the Recorder's Office of St. Clair County, Illinois, in Book of Plats "u" on page 37.

Excepting, however, that part thereof conveyed to Village of Monsanto, County of St. Clair, State of Illinois, by Deed dated August 6th, 1931 and recorded September 28th, 1931, in Book 792 on page 13, for public road purposes; also

PARCEL 4:

All that part of a 50 foot former Right-of-Way lying between Parcels 1 and 2 and lying Southeasterly of the Alton and Southern Railroad and Northwesterly of the East St. Louis, Columbia and Waterloo Railroad;

which is situated in the County of St. Clair, in the State of Illinois;

subject to general real estate taxes for the year 1982, payable in 1983, and to easements, restrictions and reservations of record.

This deed is given pursuant to authority granted by the Board of Directors and the Stockholders in a special meeting called for that purpose.

Dated this 31st day of August, 1982.

STERLING STEEL CASTING CO., an Illinois corporation

By: _____
Its President

ATTEST:
_____
Its Secretary

(CORPORATE SEAL)

STATE OF MISSOURI)
) SS.
COUNTY OF ST. LOUIS)

The foregoing instrument was acknowledged before me this 31st day of August, 1982, by WILLIAM J. SHIVE, as President, and MARY L. SHIVE, as Secretary, of STERLING STEEL CASTING CO., an Illinois corporation, on behalf of the Corporation.

_____
Notary Public

REBECCA A. LEVY
NOTARY PUBLIC, STATE OF MISSOURI
MY COMMISSION EXPIRES SEPT. 20, 1985
ST. LOUIS COUNTY

THIS INSTRUMENT WAS PREPARED BY: SAMUELS, MILLER, SCHROEDER, JACKSON & SLY
406 Citizens Building, Decatur, Illinois - 62525

PERMANET TAX NO.: 01-26-0-403-001
01-26-0-403-002
01-26-0-204-001

Question 27

ASSIGNMENT OF NOTE

FOR VALUABLE CONSIDERATION the undersigned, STERLING STEEL CASTING CO. does hereby sell, assign, transfer and set over unto WILLIAM J. SHIVE and MARY LOUISE SHIVE all of its right, title and interest in a certain Promissory Note made by STERLING STEEL FOUNDRY, INC. and guaranteed by ST. LOUIS STEEL CASTING, INC., dated August 30, 1982, in the original principal amount of $500,000.00, bearing interest at 12 percent per annum, payable monthly on the 29th day of each month, and due on August 29, 1987, secured by real estate mortgage and Security Agreement.

This Assignment is given in liquidation of said corporation to the assignees who are the sole shareholders and pursuant to authority duly given by its board of directors, this 11th day of June, 1983.

STERLING STEEL CASTING CO.

By _____
Its President

TO: Sterling Steel Foundry, Inc.

You are hereby directed to make all payments due under the above described Note to the undersigned jointly by depositing such payments with the First National Bank, Effingham, Illinois, for credit to the undersigneds' joint account, No. 237 620.

Dated June 27, 1983.

_____
WILLIAM J. SHIVE

_____
MARY LOUISE SHIVE

KEX BERTRAM, 7200 Olive ST 24th Floor, St Louis, MO 63101

BOOK 2630 PAGE 926 Question 27

A841781

Document No.________filed for Record in Recorder's office of ____________County, Illinois

________________at ____________o'clock ________M.

RELEASE OF MORTGAGE __________________Recorder of Deeds

Form 99 - Revised – RELEASE OF MORTGAGE — Perfection Legal Forms & Printing Co., Rockford, Ill.

$7.00 PAID

KNOW ALL MEN BY THESE PRESENTS, That the undersigned William J. Shive and Mary Louise Shive, assignees of Sterling Steel Casting Company, an Illinois corporation, of the County of Effingham State of Illinois

The party secured in and by a certain Mortgage executed by Sterling Steel Foundry, Inc., an Illinois corporation,

dated the 30th day of August A.D., 1982

and Recorded in the office of the Recorder of the County of St. Clair in the State of Illinois in Book 2529 of Mortgages, page 1235, or Micro Film Number ,

do hereby acknowledge receipt of full payment and satisfaction of the moneys secured in and by said document, and in consideration thereof do hereby FOREVER release and discharge the same, and quit claim all right and interest to and in the premises therein described or conveyed, for a description whereof reference may be had to said document or said record thereof.

See Exhibit A attached hereto for legal description.

(Continue legal description on reverse side)

FOR THE PROTECTION OF THE OWNER, THIS RELEASE SHALL BE FILED WITH THE RECORDER OF DEEDS IN WHOSE OFFICE THE MORTGAGE OR DEED OF TRUST WAS FILED.

IN WITNESS WHEREOF, we have hereunto set our hand and seal

this 13th day of March, A.D. 19 86 .

William J. Shive (SEAL)
William J. Shive

Mary Louise Shive (SEAL)
Mary Louise Shive

STATE OF ILL... ST. CLAIR CO... FILED FOR ... THE RECO...

1986 MAR 19 PM 2:52

BOOK 2630 PAGE 926

RECORDER

STATE OF ~~ILLINOIS~~ MISSOURI,
CITY OF ST. LOUIS ~~COUNTY~~ } ss.

I, the undersigned, a Notary Public, in and for said ~~County~~ City and State aforesaid, DO HEREBY CERTIFY, That William J. Shive personally known to me to be the same person whose name subscribed to the foregoing instrument, as having executed the same, appeared before me this day in person and acknowledged that he signed, sealed and delivered the said instrument as his free and voluntary act for the uses and purposes therein set forth. GIVEN under my hand and notarial seal this 13 day of March A.D. 19 86

Mary G. Stelt
Notary Public.

(NOTARY SEAL: ... NOTARY PUBLIC ... MISSOURI ... CITY ...)

R 63347 $13. ...

See over for name and address of person who prepared this document.

RELEASE OF MORTGAGE

TO

This instrument prepared by:

Name PEPER, MARTIN, JENSEN, MAICHEL and HETLAGE

Address 720 Olive St., 24th Floor St. Louis, Missouri 63101

Return this document to:

Name Christian B. Peper, Sr.

Address 720 Olive St., 24th Floor St. Louis, Missouri 63101

STATE OF FLORIDA)
) ss.
COUNTY OF Lee)

I, the undersigned, a Notary Public, in and for said County and State aforesaid, DO HEREBY CERTIFY, That Mary Louise Shive, personally known to me to be the same person whose name subscribed to the foregoing instrument, as having executed the same, appeared before me this day in person and ackowledged that she signed, sealed and delivered the said instrument as her free and voluntary act for the uses and purposes therein set forth. GIVEN under my hand and notarial seal this 14th day of March, 1986.

Sara M. Plant
Notary Public

NOTARY PUBLIC STATE OF FLORIDA

My Commission Expires:

Notary Public, State of Florida
My Commission Expires Nov. 29, 1989
Bonded Thru Troy Fain - Insurance Inc.

EXHIBIT "A"

PARCEL 1:

Part of Lots No. 120 and 125 of the "COMMONFIELDS OF CAHOKIA"; reference being had to the plat thereof recorded in the Recorder's Office of S. Clair County, Illinois, in Book of Plats "E" on pages 16 and 17, and more particularly described as follows, to-wit:

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PARCEL 2:

Part of Lots No. 120 and 121 of the "COMMONFIELDS OF CAHOKIA"; reference being had to the plat thereof recorded in the Recorder's Office of St. Clair County, Illinois, in Book of Plats "E" on pages 16 and 17, and more particularly described as follows, to-wit:

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PARCEL 3:

Lot No. 125-H of the "SUBDIVISION OF PART OF LOT 125 OF COMMONFIELDS OF CAHOKIA"; reference being had to the plat thereof recorded in the Recorder's Office of St. Clair County, Illinois, in Book of Plats "u" on page 37.

Excepting, however, that part thereof conveyed to Village of Monsanto, County of St. Clair, State of Illinois, by Deed dated August 6th, 1931 and recorded September 28th, 1931, in Book 792 on page 13, for public road purposes; also

PARCEL 4:

All that part of a 50 foot former Right-of-Way lying between Parcels 1 and 2 and lying Southeasterly of the Alton and Southern Railroad and Northwesterly of the East St. Louis, Columbia and Waterloo Railroad;

★★★★★★★★★★★★

AFFIDAVIT OF ROY LUSSOW

I, Roy A. Lussow, being duly sworn upon my oath, state that the following is true and accurate to the best of my knowledge and belief:

1. My name is Roy A. Lussow. I am currently, and have been since February 1983, a Vice President and General Manager of Sterling Steel Foundry, Inc.

2. A diligent record search of Sterling Steel Foundry, Inc. files has been completed to respond to the U.S. Environmental Protection Agency's Section 104(e) Information Request dated May 20, 1997 related to the Sauget Areas I and II Superfund sites.

3. I have been diligently interviewed by Ms. Cathleen S. Bumb, Sterling Steel Foundry, Inc.'s legal counsel, regarding my knowledge of the matters contained in the Information Request. No other persons with any relevant knowledge of the facility's disposal practices between February 1983 and 1985 are currently employed by Sterling Steel Foundry, Inc.

FURTHER AFFIANT SAYETH NOT.

Roy A. Lussow

STATE OF MISSOURI)
)
CITY OF ST. LOUIS)

Subscribed and sworn to before me this 1st day of July, 1997.

NOTARY PUBLIC

My commission expires:

ROBERT SCHNELLBACHER
NOTARY PUBLIC STATE OF MISSOURI
ST. LOUIS COUNTY
MY COMMISSION EXP. JAN. 23,1999